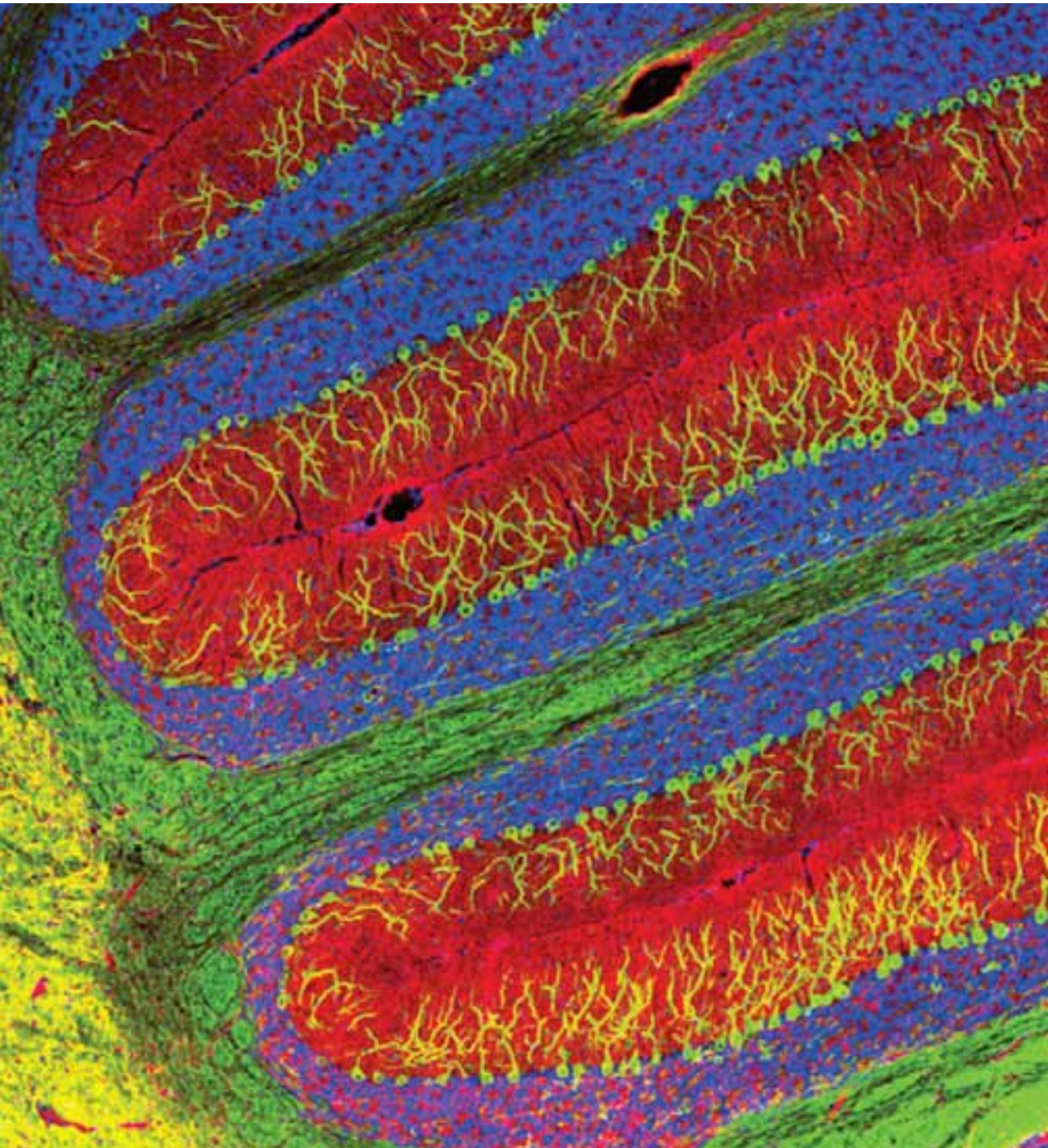


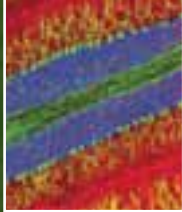
ANTIBODIES, KITS, AND REAGENTS FOR IMMUNOFLUORESCENCE

Unparalleled Product Quality, Validation, and Technical Support



Cell Signaling

TECHNOLOGY®



Cover Image:
#5568 β 3-Tubulin (D71G9)
XP™ Rabbit mAb (see page 17)

Antibodies, Kits, and Reagents for Immunofluorescence

Cell Signaling Technology (CST) provides the highest quality activation state and total protein antibodies available for use in immunofluorescence (IF). Our in-house IF group has validated each IF-recommended CST™ antibody using multiple approaches. Technical support is provided by the same scientists who validate these products.

- 4 Alexa Fluor® Conjugates
- 6 **XP™ Monoclonal Antibodies**
- 7 PathScan® Multiplex IF Kits
- 8 Chromatin and Epigenetic Regulation
- 11 Development and Differentiation
- 12 Embryonic Stem Cell Markers
- 14 Lineage-specific Markers
- 16 Neuroscience
- 18 Immunology and Inflammation
- 20 Tyrosine Kinases
- 21 MAP Kinase Signaling
- 22 Apoptosis and Autophagy
- 23 PI3K/Akt Signaling
- 24 Translational Control
- 26 Glucose and Energy Metabolism
- 28 Cell Cycle, Checkpoint Control, and DNA Damage
- 30 Cytoskeletal Regulation and Adhesion
- 33 Protein Folding and Stability
- 34 Organelle Markers
- 36 Complementary Reagents and Controls
- 38 Motif and Other Antibodies
- 39 Immunofluorescence Protocol

XP™ Monoclonal Antibodies

CST has developed a proprietary monoclonal method, XMT® technology, which allows for the production of XP™ monoclonal antibodies with the exceptional specificity, sensitivity, and reproducibility needed for the most accurate results in immunofluorescence-based assays.

See page 6 for more information.

Application Key:

W Western / **IP** Immunoprecipitation / **IHC** Immunohistochemistry
IF Immunofluorescence / **F** Flow Cytometry / **ChIP** Chromatin Immunoprecipitation / **(-IC)** Immunocytochemistry, **-P** Paraffin, **-F** Frozen) / **E-P** Peptide ELISA

Reactivity Key:

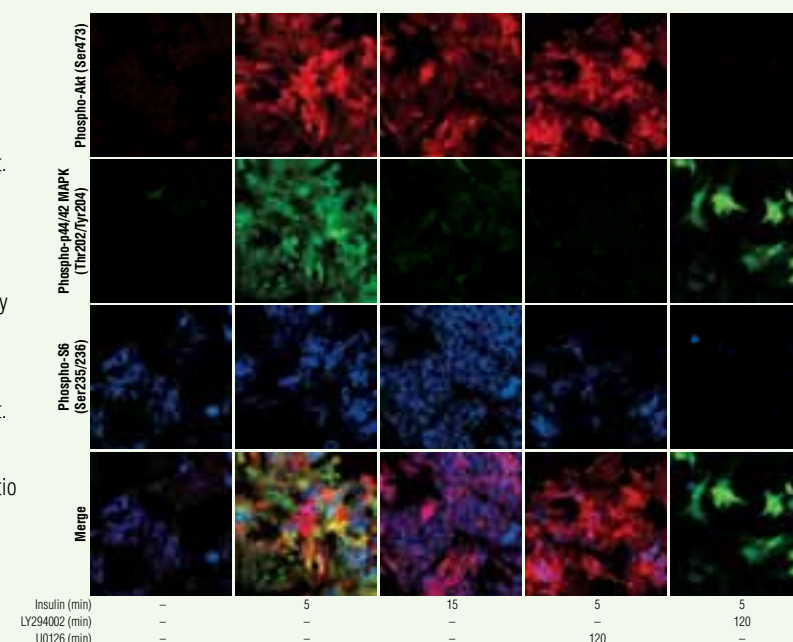
H human / **M** mouse / **R** rat / **Hm** hamster / **Mk** monkey
C chicken / **Mi** mink / **Dm** D. melanogaster / **X** Xenopus
Z zebra fish / **B** bovine / **Dg** dog / **Pg** pig / **Sc** S. cerevisiae
All all species expected / () 100% sequence homology

Antibody Validation for Immunofluorescence

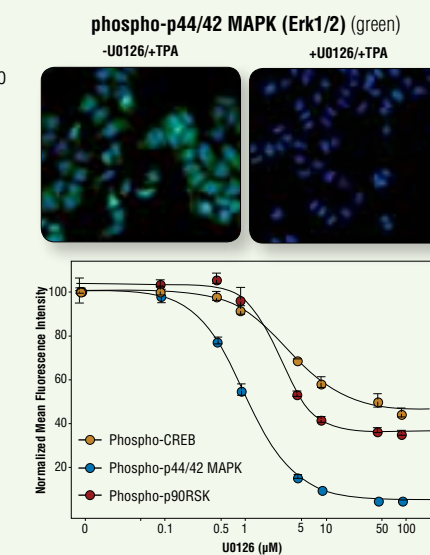
CST™ antibodies have undergone a rigorous validation protocol that utilizes titration to determine optimal concentration and screening of known positive and negative control cells/tissues to verify specificity. Labeled samples are examined using high-resolution confocal microscopy to confirm localization and assess areas of nonspecific staining. Whenever possible, antibodies are validated on multiple cell/tissue preparations: cells grown on chamber slides, coverslips, in multi-well plates (IF-IC), floating or slide-mounted frozen sections (IF-F), or paraffin-embedded tissue samples (IF-P). Additionally, our IF team has created multiple custom protocols for optimal fixation and staining of specific products; **all protocols are available on our website.**

Validation Includes:

- Optimal antibody concentration determined by antibody titration.
- Target specificity determined by pathway-specific inhibitor treatment.
- Specificity verified by appropriate subcellular localization, including treatment-induced translocation or protein knockdown for total antibody targets.
- Phospho-specificity confirmed by sensitivity to phosphatase treatment.
- Requirement of minimum threshold fold induction or signal-to-noise ratio for activation state and total protein antibodies, respectively.
- Stringent testing to ensure lot-to-lot consistency.
- Antibody performance demonstrated in-house on multiple high content platforms.



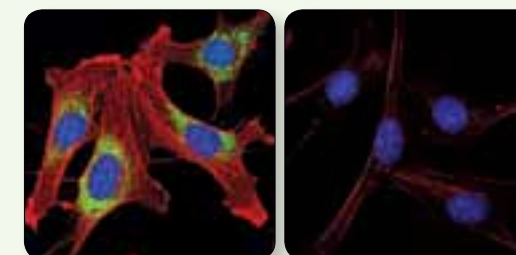
Confocal IF analysis of insulin-treated MCF7 cells (human breast adenocarcinoma), following pretreatment with kinase specific inhibitors LY294002 (PI3 Kinase Inhibitor) #9901 or U0126 (MEK1/2 Inhibitor) #9903 for the indicated times.



A549 cells were concurrently exposed to U0126 (MEK1/2 Inhibitor) #9903 and the phorbol ester TPA #4174 to assess the effect on MAPK signaling. Phospho-p44/42 MAPK (Erk1/2), detected with Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (D13.14.4E) XP™ Rabbit mAb #4370, and two downstream signaling proteins, phospho-p90RSK and phospho-CREB, detected with Phospho-p90RSK (Thr573) Antibody #9346 and Phospho-CREB (Ser133) (87G3) Rabbit mAb #9198, were used as readouts. U0126 was titrated as an 8-point dose curve in triplicate to monitor the reproducibility and validity of the assay. The signal for each antibody was analyzed using an Acumen® X3 and images were acquired with a Cellomics® ArrayScan® V™. With increasing concentrations of U0126, a significant decrease in phospho-p44/42 MAPK (Erk1/2) signal (~10-fold), as well as phospho-p90RSK and phospho-CREB (>2-fold), was observed as compared to the TPA-stimulated control.

Optimization of Staining Protocols

The standard CST immunofluorescence staining protocol includes formaldehyde fixation and detergent permeabilization. Since most antibodies work well with this protocol, two or more antibodies can be multiplexed on the same cells or tissue. However, some antibodies may work better with, or even require different fixation and/or permeabilization methods. For example, our PDI and β -Actin antibodies benefit from methanol permeabilization (see images right). If an alternative protocol is recommended for a particular antibody, it will be clearly noted under the recommended dilutions section on the product datasheet. Please feel free to contact our immunofluorescence specialists at IF@cellsignal.com with any questions regarding treatment, fixation, or staining protocols.



PDI Antibody #2446 and β -Actin (8H10D10) Mouse mAb#3700: Confocal IF analysis of NIH/3T3 cells, permeabilized with methanol (left) or 0.3% Triton X-100 (right) using #2446 (green), and #3700 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Alexa Fluor® Conjugates

for Immunofluorescence

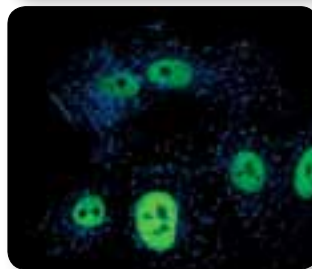
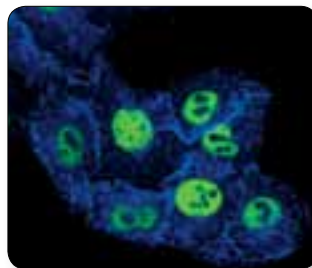
The superior brightness and photostability of Alexa Fluor® dyes combined with the highest quality antibodies from Cell Signaling Technology results in the brightest signal with the lowest background. All Alexa Fluor conjugates recommended for immunofluorescence (IF) are validated by our in-house IF specialists.

∴ The highest quality antibodies provide the brightest signal with the lowest background.

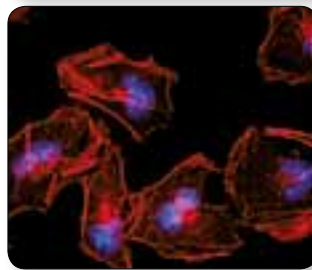
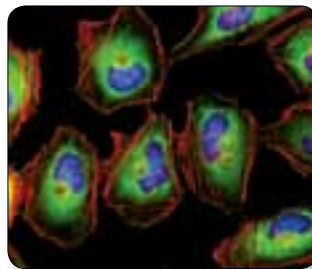
∴ Technical support provided by our Conjugation Group translates into a thorough, fast, and accurate response.

∴ High quality custom conjugations to our off-the-shelf antibodies are available upon request.

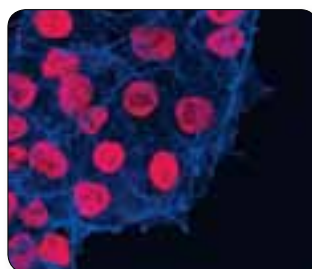
EGF Receptor (D38B1) XP™ Rabbit mAb (Alexa Fluor® 647 Conjugate) #5588 and Acetyl-Histone H3 (Lys9) (C5B11) Rabbit mAb (Alexa Fluor® 488 Conjugate) #9683: Confocal IF analysis of A549 cells, serum-starved (top) or treated with hEGF #8916 (bottom), using #5588 (blue) and #9683 (green).



Phospho-S6 Ribosomal Protein (Ser240/244) (D68F8) XP™ Rabbit mAb (Alexa Fluor® 488 Conjugate) #5018: Confocal IF analysis of HeLa cells, insulin-treated (top) and treated with LY294002 #9901 (bottom), using #5018 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Sox2 (D6D9) XP™ Rabbit mAb (Alexa Fluor® 555 Conjugate) #5179: Confocal IF analysis of NTERA-2 (top) and HeLa (bottom) cells using #5179 (red). Actin filaments were labeled with Alexa Fluor® 647 phalloidin (pseudocolored blue).

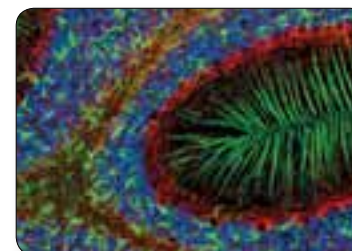


Unconjugated Antibody

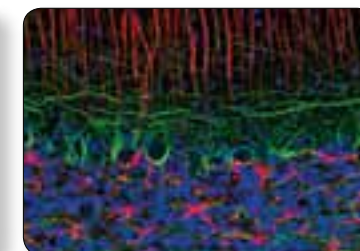
	Reactivity	Alexa Fluor® Conjugated		
		488	555	647
#4691 Akt (pan) (C67E7) Rabbit mAb	H, M, R, Mk, Dm	#5084	—	—
#3195 E-Cadherin (24E10) Rabbit mAb	H, M, (Dg)	#3199	#4295	—
#9661 Cleaved Caspase-3 (Asp175) Antibody	H, M, R, Mk, B, (Dg, Pg)	#9669	—	—
#2677 β-Catenin (L54E2) Mouse mAb (IF Preferred)	H, (M, R, Mk, Pg)	#2849	—	#4627
#3570 CD44 (156-3C11) Mouse mAb	H	#3516	—	—
#4850 COX IV (3E11) Rabbit mAb	H, R, Mk, Pg, B, Z	#4853	—	—
#9198 Phospho-CREB (Ser133) (87G3) Rabbit mAb	H, M, Mk	#9187	—	—
#2368 DYKDDDDK Tag Antibody (Binds to same epitope as Sigma's Anti-FLAG® M2 Ab)	All	#5407	#3768	#3916
#4267 EGF Receptor (D38B1) XP™ Rabbit mAb	H, M, R	#5616	#5108	#5588
#2929 EpCAM (VU1D9) Mouse mAb	H	#5198	#5488	#5447
#2118 GAPDH (14C10) Rabbit mAb	H, M, R, Mk	#3906	#3964	#3907
▶ #3670 GFAP (GA5) Mouse mAb	H, M, R	#3655	#3656	#3657
#2624 GST (26H1) Mouse mAb	All	#3368	#3720	—
#2367 HA-Tag (6E2) Mouse mAb	All	#2350	—	#3444
#2024 Hexokinase I (C35C4) Rabbit mAb	H, M	#3689	—	#3540
#9718 Phospho-Histone H2A.X (Ser139) (20E3) Rabbit mAb	H, M, R, Mk	#9719	—	#9720
#9649 Acetyl-Histone H3 (Lys9) (C5B11) Rabbit mAb	H, M, R, Mk, Z, (Sc)	#9683	#5489	#4484
#3377 Phospho-Histone H3 (Ser10) (D2C8) XP™ Rabbit mAb	H, M, R, Mk, Z	#3465	#3475	#3458
#9701 Phospho-Histone H3 (Ser10) Antibody	H, M, R, Mk, Sc, C, Dm, Z, (X)	#9708	—	#9716
#4545 Pan-Keratin (C11) Mouse mAb	H, R, Mk	#4523	—	#4528
#3308 c-Kit (Ab81) Mouse mAb	H	#3310	—	—
#2276 Myc-Tag (9B11) Mouse mAb	All	#2279	#3756	#2233
#4903 Nanog (D73G4) XP™ Rabbit mAb	H, (Mk)	—	—	#5448
#2840 Oct-4A (C30A3) Rabbit mAb	H, M	#5177	—	#5263
#9286 Phospho-p53 (Ser15) (16G8) Mouse mAb	H	#9235	—	—
#2527 p53 (7F5) Rabbit mAb	H, Mk	#5429	#5395	—
#2524 p53 (1C12) Mouse mAb	H, M, R, Mk	#2015	—	#2533
#4858 Phospho-S6 Ribosomal Protein (Ser235/236) (D57.2.2E) XP™ Rabbit mAb	H, M, R, Mk, Sc	#4803	#3985	#4851
#4856 Phospho-S6 Ribosomal Protein (Ser235/236) (2F9) Rabbit mAb	H, M, R	#4854	—	—
#5364 Phospho-S6 Ribosomal Protein (Ser240/244) (D68F8) XP™ Rabbit mAb	H, M, R, Mk	#5018	—	—
#2317 S6 Ribosomal Protein (54D2) Mouse mAb	H, M, R, Mk, Dm	#5317	—	#5548
#4755 SSEA4 (MC813) Mouse mAb	H	—	#5835	#5836
#3579 Sox2 (D6D9) XP™ Rabbit mAb	H, (Mk, B, Dg)	#5049	#5179	#5067
#2808 Survivin (71G4B7) Rabbit mAb	H, M, R	#2810	#4580	—
#2125 α-Tubulin (11H10) Rabbit mAb	H, M, R, Mk, Dm, B, (Dg)	#5063	#5059	#5046
#2128 β-Tubulin (9F3) Rabbit mAb	H, M, R, Mk, Dm, B, Z, (C)	#3623	#2116	#3624
#9411 Phospho-Tyrosine Mouse mAb (P-Tyr-100)	All	—	—	#9415

GFAP

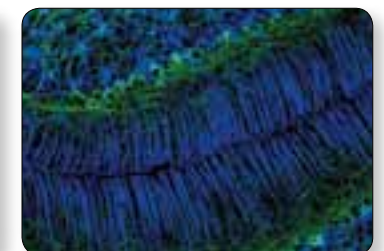
The cytoskeleton consists of three types of cytosolic fibers: microfilaments (actin filaments), intermediate filaments, and microtubules. Major types of intermediate filaments are specifically expressed in particular cell types: cytokeratins in epithelial cells, glial fibrillary acidic protein (GFAP) in glial cells, desmin in skeletal, visceral and certain vascular smooth muscle cells, vimentin in cells of mesenchymal origin, and neurofilaments in neurons. GFAP and vimentin form intermediate filaments in astroglial cells and modulate their motility and shape. In particular, vimentin filaments are present at early developmental stages, while GFAP filaments are characteristic of differentiated and mature brain astrocytes. Thus, GFAP is commonly used as a marker for intracranial and intraspinal tumors arising from astrocytes. In addition, GFAP intermediate filaments are also present in non-myelin forming Schwann cells in the peripheral nervous system.



GFAP (GA5) Mouse mAb (Alexa Fluor® 488 Conjugate) #3655: Confocal IF analysis of rat cerebellum using #3655 (green) and Neurofilament-L (DA2) Mouse mAb #2835 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



GFAP (GA5) Mouse mAb (Alexa Fluor® 555 Conjugate) #3656: Confocal IF analysis of normal rat cerebellum using #3656 (red) and Neurofilament-L (C28E10) Rabbit mAb #2837 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



GFAP (GA5) Mouse mAb (Alexa Fluor® 647 Conjugate) #3657: Confocal IF analysis of rat cerebellum using #3657 (blue) and Neurofilament-L (DA2) Mouse mAb #2835 (green).

XP™ Monoclonal Antibodies

XP™ monoclonal antibodies are a line of high quality rabbit monoclonal antibodies exclusively available from Cell Signaling Technology (CST). Any product labeled with XP has been carefully selected based on superior performance in all approved applications.

These antibodies are generated using XMT® technology, a proprietary monoclonal method developed at CST. The technology provides access to a broad range of antibody-producing B cells unattainable with traditional monoclonal technologies, allowing more comprehensive screening and the identification of XP monoclonal antibodies with:

eXceptional specificity

As with all CST™ antibodies, the antibody is specific to your target of interest, saving you valuable time and resources.

+ eXceptional sensitivity

The antibody will provide a stronger signal for your target protein in cells and tissues, allowing you to monitor expression of low levels of endogenous proteins, saving you valuable materials.

+ eXceptional stability and reproducibility

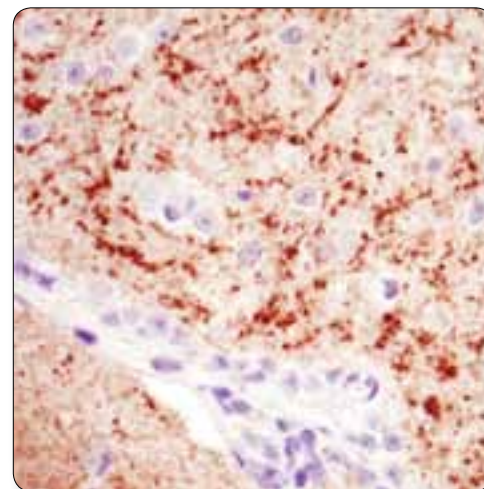
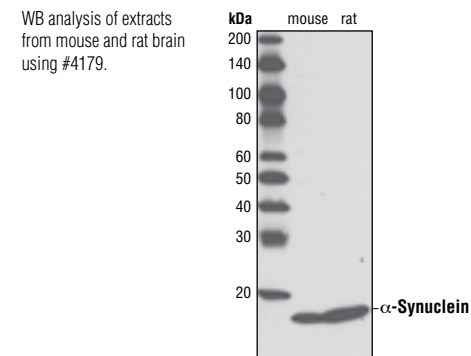
XMT technology combined with our stringent quality control ensures maximum lot-to-lot consistency and the most reproducible results.

= eXceptional Performance™

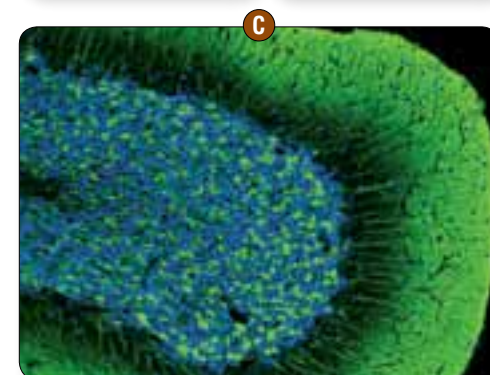
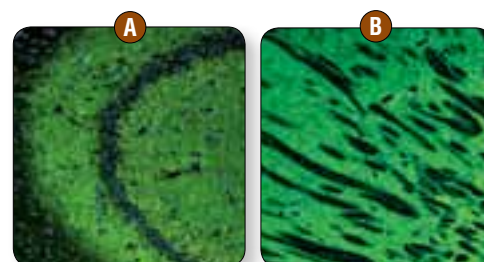
XMT technology coupled with our extensive antibody validation and stringent quality control delivers XP monoclonal antibodies with eXceptional Performance in the widest range of applications.

Visit our website for more experimental details, additional information, and a complete list of XP monoclonal antibodies.

α-Synuclein (D37A6) XP™ Rabbit mAb #4179 is an example of an antibody with superior performance in a wide range of tested applications.



IHC analysis of paraffin-embedded mouse brain using #4179.



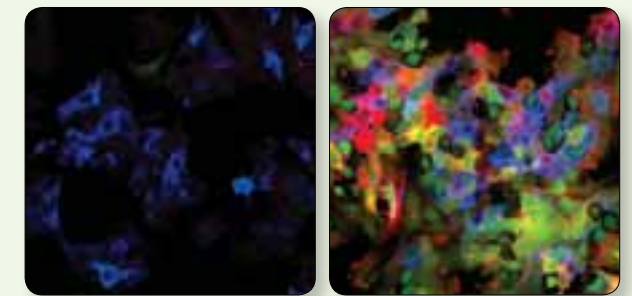
Confocal IF analysis of normal rat hippocampus (A), striatum (B), and cerebellum (C) using #4179 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

PathScan® Multiplex IF Kits

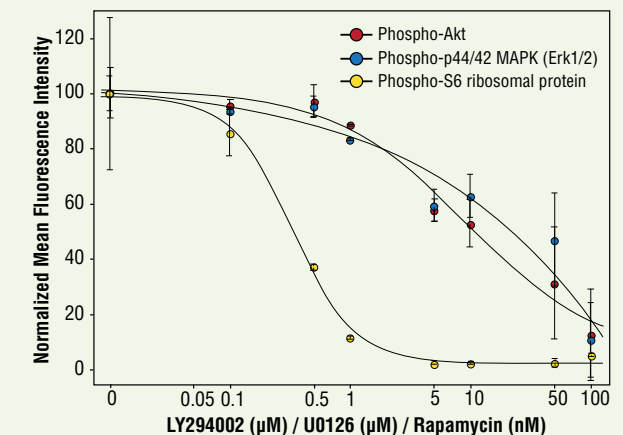
PathScan® Multiplex IF Kits from Cell Signaling Technology provide a novel multiplex assay to simultaneously assess signaling through key pathway nodes using automated high content platforms (both imaging and laser scanning), or manual immunofluorescence microscopy. The kits contain a cocktail of three high quality primary antibodies, as well as a detection cocktail utilizing the Alexa Fluor® series of fluorescent dyes. Antibody and dye pairings have been pre-optimized, and each kit contains enough reagents for 100 assays (based on a working volume of 100 µl/test).

- Kits allow the analysis of multiple pathway endpoints within a single sample, saving time and reagents.
- Kits are produced and optimized in-house with the highest quality antibodies, providing you with the greatest possible specificity and sensitivity.
- Technical support is provided by our in-house IF group who developed the products and knows them best, ensuring a timely and technically savvy response.

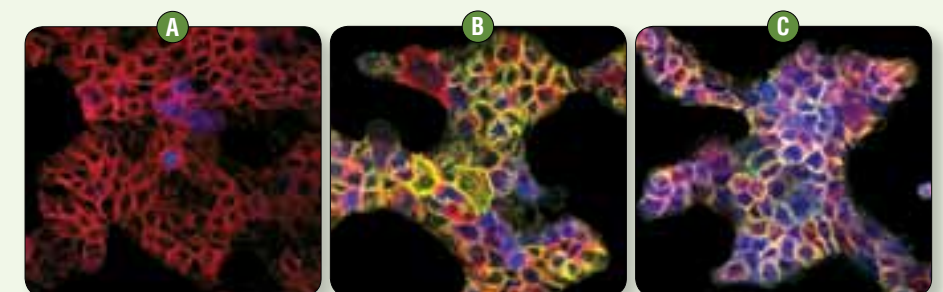
PathScan® Signaling Nodes Multiplex IF Kit #8999: MCF7 cells were grown under normal conditions in 96-well plates and treated for 2 hr at 37 °C with vehicle or increasing concentrations of a combination of LY294002, U0126, and Rapamycin (FRAP/mTOR Inhibitor) #9904. Cells were fixed, incubated overnight with the PathScan® Signaling Nodes Multiplex IF Kit primary antibody cocktail, and subsequently labeled with a detection cocktail of Alexa Fluor® conjugated secondary antibodies. Nuclei were labeled with Hoechst 33342 #4082. Fluorescence quantification was performed using a TTP® LabTech Acumen® X3 high content screening platform, and images were acquired using a Cellomics® ArrayScan® VTI. Fluorescence intensities per well were normalized to 100% of vehicle control, and inhibition curves were generated using Spotfire®.



PathScan® Signaling Nodes Multiplex IF Kit #8999: Confocal IF analysis of MCF7 cells, serum-starved (left) or insulin-treated (right), using #8999. Red = phospho-Akt (Ser473), green = phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204), and blue pseudocolor = phospho-S6 (Ser235/236).



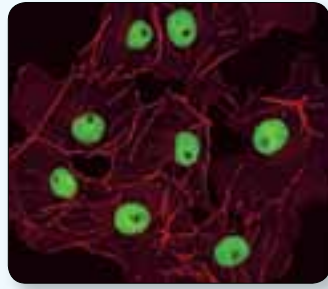
PathScan® EGF Receptor Activation Multiplex IF Kit #7967: Confocal IF analysis of A431 cells, serum-starved (A), treated with Human Epidermal Growth Factor (hEGF) #8916 (100 ng/ml) for 2 minutes (B), or 15 minutes (C), using #7967. Red = EGF receptor, green = phospho-EGF receptor (Tyr1068), and blue pseudocolor = phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204).



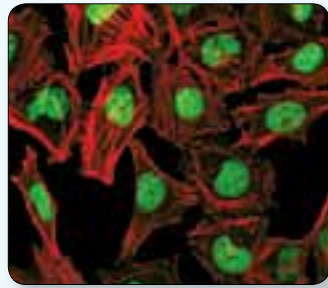
	Applications	Reactivity
NEW #7851 PathScan® Apoptosis and Proliferation Multiplex IF Kit Kit includes primary antibody and detection cocktails to simultaneously detect levels of phospho-Histone H3 (Ser10), cleaved PARP (Asp214), and α-Tubulin	IF-IC	H, Mk
NEW #7967 PathScan® EGF Receptor Activation Multiplex IF Kit Kit includes primary antibody and detection cocktails to simultaneously detect levels of phospho-EGF Receptor (Tyr1068), total EGF Receptor, and phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204)	IF-IC, IF-P	H, Mk, (M)
NEW #8999 PathScan® Signaling Nodes Multiplex IF Kit Kit includes primary antibody and detection cocktails to simultaneously detect levels of phospho-Akt (Ser473), phospho-S6 Ribosomal Protein (Ser235/236), and phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204)	IF-IC	H, M, R, Mk

PathScan® Multiplex IF Kits: Some kit components are provided under an agreement between Life Technologies Corporation and Cell Signaling Technology, Inc., and the manufacture, use, sale or import of antibody conjugate in this product is subject to one or more US patents and corresponding non-US equivalents, owned or controlled by Life Technologies Corporation or its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity), for immunocytochemistry, high content screening (HCS) analysis, or flow cytometry applications. Buyer's use of this product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) resale, whether or not such product or its components are resold for use in research; or for any other commercial purpose is prohibited. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cellular Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541)465-8300. Fax: (541) 335-0354.

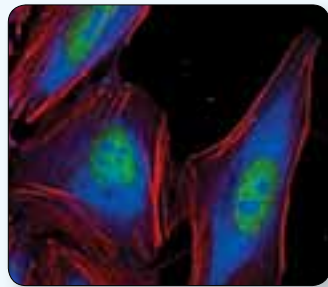
Chromatin and Epigenetic Regulation



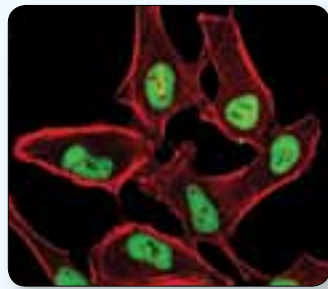
Bmi1 (D20B7) XP™ Rabbit mAb #6964: Confocal IF analysis of COS-7 cells using #6964 (green). Actin filaments were labeled with DY-554 phalloidin (red).



CHAF1A (D77D5) XP™ Rabbit mAb #5480: Confocal IF analysis of HeLa cells using #5480 (green). Actin filaments were labeled with DY-554 phalloidin (red).



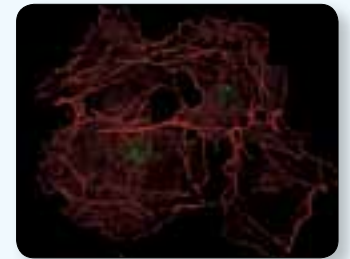
Ezh2 (D2C9) XP™ Rabbit mAb #5246: Confocal IF analysis of HeLa cells using #5246 (green) and S6 Ribosomal Protein (54D2) Mouse mAb #2317 (blue). Actin filaments were labeled with DY-554 phalloidin (red).



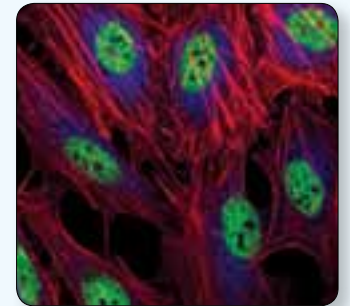
HDAC2 (3F3) Mouse mAb #5113: Confocal IF analysis of HeLa cells using #5113 (green). Actin filaments were labeled using DY-554 phalloidin (red).

	Applications	Reactivity
#2990 ASF1A (C6E10) Rabbit mAb	W, IP, IHC-P, IF-IC	H, M, Mk, (C, B)
#2902 ASF1B (C70E2) Rabbit mAb	W, IP, IF-IC	H, Mk
NEW #6964 Bmi1 (D20B7) XP™ Rabbit mAb	XP W, IF-IC, ChIP	H, Mk
NEW #5856 Bmi1 (D42B3) Rabbit mAb	W, IP, IF-IC, ChIP	H, M, R, Mk
#3508 Brg1 (A52) Antibody	W, IF-IC	H, M, Mk, (R)
#2187 Phospho-CENP-A (Ser7) Antibody	W, IP, IF-IC	H, (Mk)
#2048 CENP-A (C51A7) Rabbit mAb (Mouse Specific; IF Preferred)	W, IF-IC	M
#2186 CENP-A Antibody	W, IF-IC	H
NEW #5480 CHAF1A (D77D5) XP™ Rabbit mAb	XP W, IP, IF-IC	H, Mk
#3417 CTCF (D1A7) XP™ Rabbit mAb	XP W, IP, IF-IC, ChIP	H, R, Mk, (B)
#3418 CTCF (D31H2) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, ChIP	H, M, R, Mk, (B)
#2899 CTCF Antibody	W, IP, IF-IC, ChIP	H, M, R, Mk
#4880 Phospho-DBC1 (T454) Antibody	W, IP, IF-IC	H
#5032 DNMT1 (D63A6) XP™ Rabbit mAb	XP W, IF-IC	H, M, R, Mk, (B)
#2196 ESET (C1C12) Rabbit mAb	W, IP, IF-IC	H, Mk
NEW #5246 Ezh2 (D2C9) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, ChIP	H, M, R, Mk
#3147 Ezh2 (AC22) Mouse mAb	W, IF-IC	H, M, R, Mk
#3306 G9a/EHMT2 (C6H3) Rabbit mAb	W, IF-IC	H, M, R, Mk, (B, Pg)
#3305 GCN5L2 (C26A10) Rabbit mAb	W, IP, IF-IC	H, M, R, Mk, (B)
NEW #5356 HDAC1 (10E2) Mouse mAb	W, IP, IF-IC	H, M, R, Mk
#2540 HDAC2 Antibody	W, IF-IC	H, M, R, Mk
NEW #5113 HDAC2 (3F3) Mouse mAb	W, IP, IF-IC	H, M, R, Mk
#3815 Phospho-HDAC3 (Ser424) Antibody	W, IP, IHC-P, IF-IC	H, M, R, (Mk, C, X)
#3949 HDAC3 (7G6C5) Mouse mAb	W, IP, IF-IC	H, M, R, Mk
#9718 Phospho-Histone H2A.X (Ser139) (20E3) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, Mk
#9719 Phospho-Histone H2A.X (Ser139) (20E3) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H, M, R, Mk
#9720 Phospho-Histone H2A.X (Ser139) (20E3) Rabbit mAb (Alexa Fluor® 647 Conjugate)	AF IF-IC, F	H, M, R, Mk
#2577 Phospho-Histone H2A.X (Ser139) Antibody	W, IHC-P, IF-IC, F	H, M, R
NEW #5438 Phospho-Histone H2A.X (Ser139/Tyr142) Antibody	W, IP, IF-IC, F	H, M, R, Mk
#2718 Histone H2A.Z Antibody	W, IP, IF-IC	H, M, R, Mk, Z, (C, X, B)
#4827 MacroH2A1.2 Antibody	W, IF-IC	H, M, R, Mk, (C, B)
NEW #5410 Acetyl-Histone H2B (Lys12) Antibody	W, IP, IF-IC	H, M, R, Mk
NEW #5435 Acetyl-Histone H2B (Lys15) Antibody	W, IF-IC	H, M, R, Mk, (B, Pg)
#9649 Acetyl-Histone H3 (Lys9) (C5B11) Rabbit mAb	W, IHC-P, IF-IC, F, ChIP	H, M, R, Mk, Z, (Sc)
#9683 Acetyl-Histone H3 (Lys9) (C5B11) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H, M, R, Mk, Z, (Sc)
NEW #5489 Acetyl-Histone H3 (Lys9) (C5B11) Rabbit mAb (Alexa Fluor® 555 Conjugate)	AF IF-IC	H, M, R, Mk, Z, (Sc)
NEW #4484 Acetyl-Histone H3 (Lys9) (C5B11) Rabbit mAb (Alexa Fluor® 647 Conjugate)	AF IF-IC, F	H, M, R, Mk, Z, (Sc)
#9677 Acetyl-Histone H3 (Lys9/Lys14) Antibody	W, IP, ChIP	H, M, R, Mk, (Z)
#9711 Acetyl- and Phospho-Histone H3 (Lys9/Ser10) Antibody	W, IHC-P, IF-P	H, M, R
NEW #4318 Acetyl-Histone H3 (Lys14) Antibody	W, IF-IC	H, M, R, Mk, (Dm)
#4243 Acetyl-Histone H3 (Lys56) Antibody	W, IP, IF-IC	H, M, R, Mk
NEW #5326 Mono-Methyl-Histone H3 (Lys4) (D1A9) XP™ Rabbit mAb	XP W, IF-IC, ChIP	H, M, R, Mk
#9723 Mono-Methyl-Histone H3 (Lys4) Antibody	W, IP, IF-IC	H, M, R, Mk, (X, Z)
#9725 Di-Methyl-Histone H3 (Lys4) (C64G9) Rabbit mAb	W, IP, IHC-P, IF-IC, ChIP	H, M, R, Mk
#9726 Di-Methyl-Histone H3 (Lys4) Antibody	W, IP, IHC-P, IF-IC, ChIP	H, M, R, Mk, (X, Z)
#9751 Tri-Methyl-Histone H3 (Lys4) (C42D8) Rabbit mAb	W, IHC-P, IF-IC, ChIP	H, M, R, Mk, Dm, Sc, (X, Z)

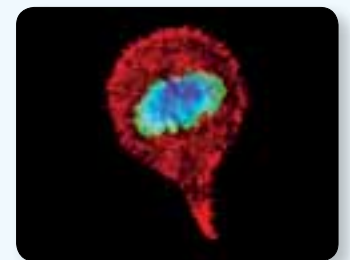
	Applications	Reactivity
#9727 Tri-Methyl-Histone H3 (Lys4) Antibody	W, IP, IHC-P, IF-IC, ChIP	H, M, R, Mk, (X, Z)
#4658 Di-Methyl-Histone H3 (Lys9) (D85B4) XP™ Rabbit mAb	XP W, IP, IF-IC, ChIP	H, M, R, Mk, (Dm, X, Z, B, Pg, Sc)
#9753 Di-Methyl-Histone H3 (Lys9) Antibody	W, IP, IHC-P, IF-IC, ChIP	H, M, R, Mk, Dm, Sc
NEW #5327 Di/Tri-Methyl-Histone H3 (Lys9) (6F12) Mouse mAb	W, IP, IF-IC, ChIP	H, M, R, Mk
#9754 Tri-Methyl-Histone H3 (Lys9) Antibody	W, IF-IC, ChIP	H, M, R, Mk, (Dm, Pg)
#4473 Pan-Methyl-Histone H3 (Lys9) (D54) XP™ Rabbit mAb	XP W, IP, IF-IC, ChIP	H, M, R, Mk, (C, Dm, X, Z, B, Pg, Sc)
#4069 Pan-Methyl-Histone H3 (Lys9) Antibody	W, IP, IF-IC, ChIP	H, M, R, Mk, Z
#9728 Di-Methyl-Histone H3 (Lys27) (D18C8) XP™ Rabbit mAb	XP W, IF-IC, ChIP	H, M, R, Mk
#9755 Di-Methyl-Histone H3 (Lys27) Antibody	W, IP, IF-IC	H, M, R, Mk
#9733 Tri-Methyl-Histone H3 (Lys27) (C36B11) Rabbit mAb	W, IP, IHC-P, IF-IC, ChIP	H, M, R, Mk, (X, Z)
#9756 Tri-Methyl-Histone H3 (Lys27) Antibody	W, IP, IHC-P, IF-IC, ChIP	H, M, R, Mk, (X)
#2901 Di-Methyl-Histone H3 (Lys36) (C75H12) Rabbit mAb	W, IHC-P, IF-IC	H, M, R, Mk
#9758 Di-Methyl-Histone H3 (Lys36) Antibody	W, IP, IF-IC	H, M, R, Mk
#9763 Tri-Methyl-Histone H3 (Lys36) Antibody	W, IHC-P, IF-IC	H, M, R, Mk
#3377 Phospho-Histone H3 (Ser10) (D2C8) XP™ Rabbit mAb	XP W, IF-IC, F	H, M, R, Mk, Z
#3465 Phospho-Histone H3 (Ser10) (D2C8) XP™ Rabbit mAb (Alexa Fluor® 488 Conjugate)	XP AF IF-IC, F	H, M, R, Mk
#3475 Phospho-Histone H3 (Ser10) (D2C8) XP™ Rabbit mAb (Alexa Fluor® 555 Conjugate)	XP AF IF-IC	H, M, R, Mk
#3458 Phospho-Histone H3 (Ser10) (D2C8) XP™ Rabbit mAb (Alexa Fluor® 647 Conjugate)	XP AF IF-IC, F	H, M, R, Mk
#3642 Phospho-Histone H3 (Ser10) (D2C8) XP™ Rabbit mAb (Biotinylated)	XP W, IF-F, IF-IC, F	H, M, R, Mk
#9701 Phospho-Histone H3 (Ser10) Antibody	W, IP, IHC-P, IHC-F, IF-IC, F	H, M, R, Mk, C, Dm, Z, Sc, (X)
#9708 Phospho-Histone H3 (Ser10) Antibody (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H, M, R, Mk, C, Dm, Z, Sc, (X)
#9716 Phospho-Histone H3 (Ser10) Antibody (Alexa Fluor® 647 Conjugate)	AF IF-IC, F	H, M, R, Mk, C, Dm, Z, Sc, (X)
#9706 Phospho-Histone H3 (Ser10) (6G3) Mouse mAb	W, IF-F, IF-IC, F	H, M, R
#9764 Phospho-Histone H3 (Thr11) Antibody	W, IP, IF-IC, F	H, M, R, (X)
#9713 Phospho-Histone H3 (Ser28) Antibody	W, IP, IF-F, IF-IC, F	H, M, Hm, Dm, (R, C, X, Z, B)
#4499 Histone H3 (D1H2) XP™ Rabbit mAb	XP W, IHC-P, IF-IC	H, M, R, Mk, (Hm, C, Dm, X, Z, B)
NEW #9672 Acetyl-Histone H4 (Lys5) Antibody	W, IP, IHC-P, IF-IC, ChIP	H, M, R, Mk, (C, Dm, X, Z, B, Pg)
#2591 Acetyl-Histone H4 (Lys12) Antibody	W, IHC-P, IF-IC, F	H, M, R, Mk
#3935 HMGB1 Antibody	W, IF-IC	H, M, R, Mk, (Hm, B, Pg)
#2623 HP1α (C7F11) Rabbit mAb	W, IP, IHC-P, IF-IC	H, M, R, Mk
#2616 HP1α Antibody	W, IP, IHC-P, IF-IC, F	H, M, R, Mk, (B)
#2600 Phospho-HP1γ (Ser83) Antibody	W, IP, IF-IC	H, M, R, Mk, (Dm, B)
#2619 HP1γ Antibody	W, IP, IF-IC, F	H, M, R, Mk
#3876 JARID1A (D28B10) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, (R, B)
#3314 JMJD1B (C69G2) Rabbit mAb	W, IP, IF-IC	H, Mk
#2621 JMJD1B/JHDM2B Antibody	W, IP, IF-IC	H, M, R, Mk
#5377 JMJD1B (6A1-1F5) Mouse mAb	W, IP, IF-IC	H, M, R, Mk
NEW #5328 JMJD2A (C37E5) Rabbit mAb	W, IP, IHC-P, IF-IC	H, M, R, Mk
#3393 JMJD2A (C70G6) Rabbit mAb	W, IP, IF-IC	H, M, R, (Mk)
#2184 LSD1 (C69G12) Rabbit mAb	W, IP, IHC-P, IHC-F, IF-IC	H, M, R, Mk
#2139 LSD1 Antibody	W, IP, IHC-P, IF-IC, F	H, M, R, Mk



Phospho-Histone H2A.X (Ser139/Tyr142) Antibody #5438: Confocal IF analysis of COS-7 cells, untreated (top) or UV-treated (bottom), using #5438 (green). Actin filaments were labeled with DY-554 phalloidin (red).

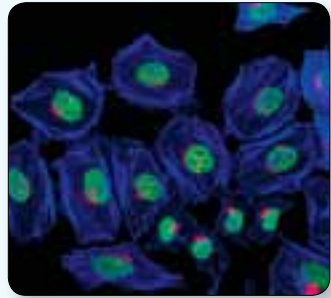


Mono-Methyl-Histone H3 (Lys4) (D1A9) XP™ Rabbit mAb #5326: Confocal IF analysis of HeLa cells using #5326 (green) and MEK1/2 (L38C12) Mouse mAb #4694 (blue). Actin filaments were labeled with DY-554 phalloidin (red).

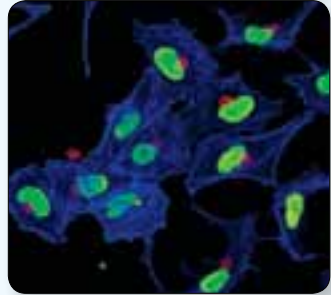


Phospho-Histone H3 (Ser10) (D2C8) XP™ Rabbit mAb #3377: Confocal IF analysis of HeLa cells using #3377 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

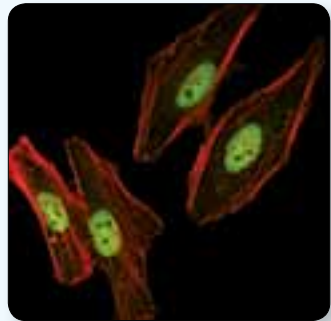
Chromatin and Epigenetic Regulation, cont.



Acetyl-Histone H4 (Lys5) Antibody #9672: Confocal IF analysis of HeLa cells, untreated (top) or treated with Trichostatin A (TSA) #9950 (bottom), using #9672 (green) and Golgin-97 Antibody (red). Actin filaments were labeled with a dye conjugated phalloidin (pseudocolored blue).



SMC3 (D47B5) Rabbit mAb #5696: Confocal IF analysis of HeLa cells using #5696 (green). Actin filaments were labeled with DY-554 phalloidin (red).



	Applications	Reactivity
#3456 MeCP2 (D4F3) XP™ Rabbit mAb	W, IP, IHC-P, IF-IC	H, M, R, Mk
#2823 MEP50 Antibody	W, IP, IF-IC	H
#3625 NUT (C52B1) Rabbit mAb	W, IP, IHC-P, IF-F	H, R, (Mk)
#3934 PHF20 (D96F6) XP™ Rabbit mAb	W, IP, IF-IC	H, M, R, Mk, (B)
#2449 PRMT1 (A33) Antibody	W, IP, IF-IC	H, M, R, Mk, (B)
#3379 PRMT4/CARM1 (C31G9) Rabbit mAb	W, IP, IF-IC	H, M, R, Mk
#4321 RAD21 (D213) Antibody	W, IP, IF-IC	H, M, R, Mk, (C, B, Pg)
NEW #6882 RBAP46 (V415) Antibody	W, IP, IF-IC	H, M, R, Mk, (Pg)
NEW #5694 RING1B (D22F2) XP™ Rabbit mAb	W, IP, IF-IC, ChIP	H, M, R, Mk
#3650 SATB1 (L745) Antibody	W, IP, IF-IC	H, (Mk)
#2813 SET7/SET9 Antibody	W, IF-IC	H, M, R, Mk
#2996 SET8 (C18B7) Rabbit mAb	W, IF-IC	H, M, R, Mk, (B, Pg)
#2314 Phospho-SirT1 (Ser47) Antibody	W, IP, IF-IC, F	H
#2493 SirT1 (D739) Antibody	W, IP, IF-IC	H, Mk
#2028 SirT1 Antibody (Mouse Specific)	W, IP, IF-IC	M
#2590 SirT6 Antibody	W, IP, IF-IC	H
#4029 Phospho-SMC1 (Ser360) Antibody	W, IF-IC	H, M, R, (Mk, C, X, B, Sc)
NEW #5696 SMC3 (D47B5) Rabbit mAb	W, IP, IF-IC	H, M, R, Mk, (C, X, Z, B)
NEW #5882 STAG2 (D25A4) XP™ Rabbit mAb	W, IP, IF-IC	H, M, R, Mk, (C, B, Pg)
#3737 SUZ12 (D39F6) XP™ Rabbit mAb	W, IP, IF-IC, ChIP	H, M, R, Mk
NEW #5868 TIF1β (4E1) Mouse mAb	W, IF-IC	H
#3966 TRRAP (D2966) Antibody	W, IP, IF-IC	H, M, R, Mk

Application References:

ASF1B (C70E2) Rabbit mAb #2902: Jasencakova, Z. et al. (2010) Replication stress interferes with histone recycling and predeposition marking of new histones. *Mol. Cell* 37, 736–743.

Histone Deacetylase 5 (HDAC5) Antibody #2082: Kruhlak, M.J. et al. (2001) Regulation of global acetylation in mitosis through loss of histone acetyltransferases and deacetylases from chromatin. *J. Biol. Chem.* 276, 38307–38319.

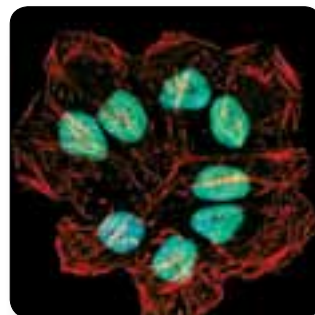
Phospho-Histone H3 (Ser10) Antibody #9701: Li, T. et al. (2004) Failure to proliferate and mitotic arrest of CDK11 (p110/p58)-null mutant mice at the blastocyst stage of embryonic cell development. *Mol. Cell. Biol.* 24, 3188–3197. / Li, J. et al. (2001) Transcriptional induction of MKP-1 in response to stress is associated with histone H3 phosphorylation-acetylation. *Mol. Cell. Biol.* 21, 8213–8224.

Phospho-Histone H3 (Ser10) (6G3) Mouse mAb #9706: Crosio, C. et al. (2002) Mitotic phosphorylation of histone H3: spatio-temporal regulation by mammalian Aurora kinases. *Mol. Cell. Biol.* 22, 874–885. / Kaitna, S. et al. (2002) The Aurora B Kinase AIR-2 Regulates Kinetochores during Mitosis and is Required for Separation of Homologous Chromosomes during Meiosis. *Curr. Biol.* 12, 798–812.

Acetyl- and Phospho-Histone H3 (Lys9/Ser10) Antibody #9711: Kruhlak, M.J. et al. (2001) Regulation of global acetylation in mitosis through loss of histone acetyltransferases and deacetylases from chromatin. *J. Biol. Chem.* 276, 38307–38319.

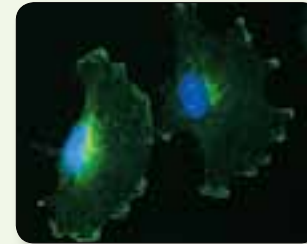
RING1B

The polycomb group (PcG) proteins contribute to the maintenance of cell identity, stem cell self-renewal, cell cycle regulation, and oncogenesis by maintaining the silenced state of genes that promote cell lineage specification, cell death, and cell cycle arrest. PcG proteins exist in two complexes that cooperate to maintain long-term gene silencing through epigenetic chromatin modifications. The first complex, EED-EZH2, is recruited to genes by DNA-binding transcription factors and methylates histone H3 on Lys27. This histone methyl-transferase activity requires the Ezh2, Eed, and Suz12 subunits of the complex. Methylation of Lys27 facilitates the recruitment of the second complex, PRC1, which ubiquitinylates histone H2A on Lys119. PRC1 is composed of Bmi1 and RING1A, both of which act to enhance the E3 ubiquitin ligase activity of an additional catalytic subunit, RING1B. Polycomb proteins play an important role in the regulation of cell proliferation and senescence through repression of the p16 INK4A and p19 ARF genes and are required for maintenance of adult hematopoietic and neural stem cells, as well as embryonic stem cells.

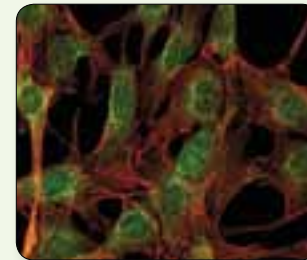


RING1B (D22F2) XP™ Rabbit mAb #5694: Confocal IF analysis of HeLa cells using #5694 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

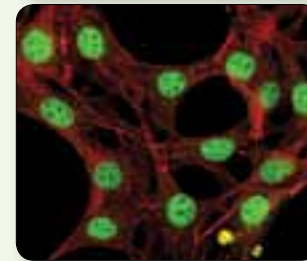
Development and Differentiation



Notch2 (D76A6) XP™ Rabbit mAb #5732: Confocal IF analysis of SNB19 cells using #5732 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



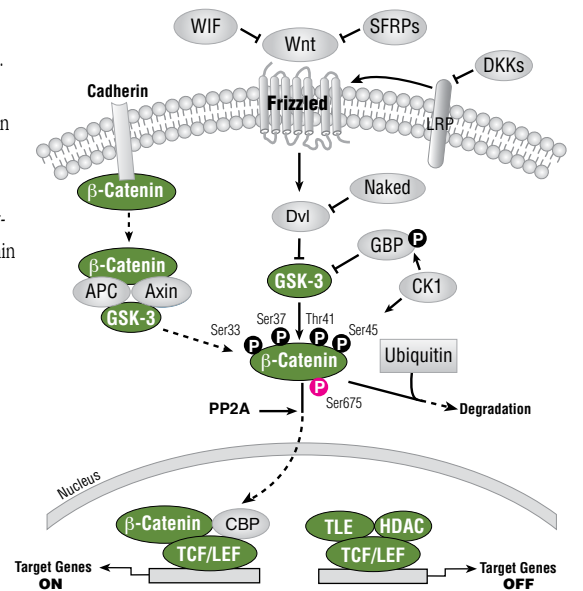
Smad2 (D43B4) XP™ Rabbit mAb #5339: Confocal IF analysis of NIH/3T3 cells, serum-starved (top) or treated with hTGF-β3 #8425 (bottom), using #5339 (green). Actin filaments were labeled with DY-554 phalloidin (red).



	Applications	Reactivity
#3903 AFP (3H8) Mouse mAb	W, IF-IC	H, M
#3215 AP-2α (C83E10) Rabbit mAb	W, IF-IC	H, M, R, Mk
#2509 AP-2β Antibody	W, IP, IF-IC	H, M, R
#2320 AP-2γ Antibody	W, IF-IC	H
#4176 Phospho-β-Catenin (Ser675) (D2F1) XP™ Rabbit mAb	W, IP, IF-IC	H, (M, R, C, X, Z)
#9581 β-Catenin Antibody (Amino-terminal Antigen)	W, IP, IF-F	H, M, R, Mk
#9587 β-Catenin Antibody (Carboxy-terminal Antigen)	W, IP, IHC-P, IHC-F, IF-F, F, ChIP	H, M, R, Mk, (C, X, B, Dg, Pg)
#2677 β-Catenin (L54E2) Mouse mAb (IF Preferred)	IP, IF-IC, F	H, (M, R, Mk, Pg)
#2849 β-Catenin (L54E2) Mouse mAb (Alexa Fluor® 488 Conjugate)	AF	H, (M, R, Mk, Pg)
#4627 β-Catenin (L54E2) Mouse mAb (Alexa Fluor® 647 Conjugate)	AF	H, (M, R, Mk, Pg)
#4115 CDCP1 Antibody	W, IP, IF-IC	H
#2005 FoxP1 Antibody	W, IP, IHC-P, IF-IC, F	H, M, (R)
#2230 LEF1 (C12A5) Rabbit mAb	W, IP, IHC-P, IF-IC, F	H, M, R
#4608 MAML1 Antibody	W, IP, IF-IC	H
NEW #4380 Notch1 (D6F11) XP™ Rabbit mAb	XP	W, IF-IC, F
NEW #4530 Notch2 (D67C8) XP™ Rabbit mAb	XP	W, IP, IF-IC
NEW #5732 Notch2 (D76A6) XP™ Rabbit mAb	XP	W, IP, IF-IC, F
#2756 Numb (C29G11) Rabbit mAb	W, IP, IF-IC, F	H, M, R, Mk
#2761 Numb (C44B4) Rabbit mAb	W, IP, IF-IC, F	H
#9585 Slug (C19G7) Rabbit mAb	W, IP, IHC-P, IF-IC	H, M
#9510 Phospho-Smad2 (Ser465/467)/Smad3 (Ser423/425) (D6G10) XP™ Rabbit mAb	XP	IF-IC, F
NEW #5339 Smad2 (D43B4) XP™ Rabbit mAb	XP	W, IP, IF-IC, F, ChIP
#3122 Smad2 (86F7) Rabbit mAb	W, IP, IF-IC	H, Mk
NEW #5678 Smad2/3 Antibody	W, IP, IF-IC, F, ChIP	H, M, R, Mk
#9523 Smad3 (C67H9) Rabbit mAb	W, IP, IF-IC, F, ChIP	H, M, R, Mk, (X, Z, B)
#9513 Smad3 Antibody	W, IP, IF-IC	H, M, R
#4973 SnoN Antibody	W, IF-IC	H, (Mk)
#2203 TCF1 (C63D9) Rabbit mAb	W, IP, IHC-P, IF-IC, F	H, M
NEW #5868 TIF1β (4E1) Mouse mAb	W, IF-IC	H
#4681 TLE1/2/3/4 Antibody	W, IF-IC	H, M, Mk, Dm, (R, X, Z)

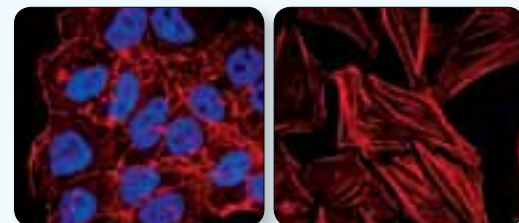
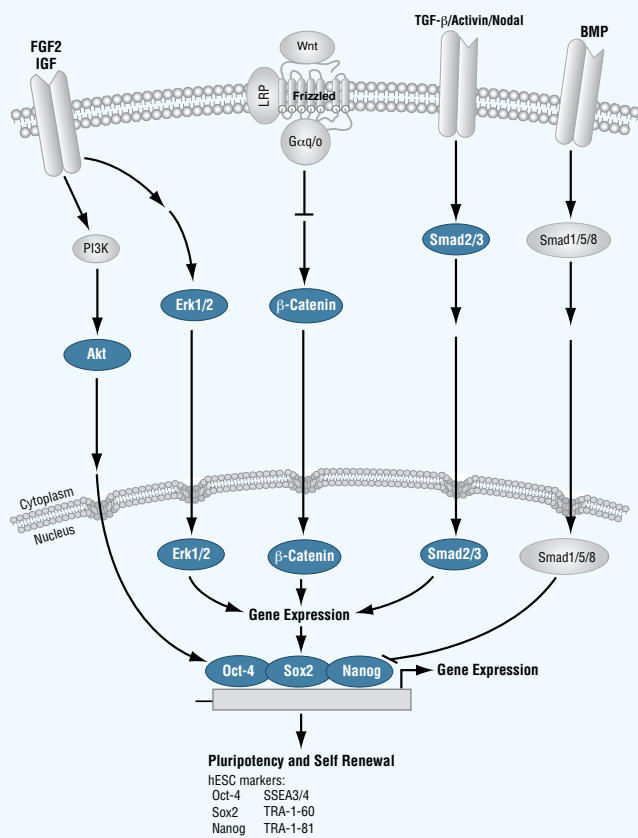
β-Catenin

β-catenin is a key downstream effector in the Wnt signaling pathway and is implicated in early embryonic development and tumorigenesis. CK1 phosphorylation of β-catenin on Ser45 primes β-catenin for subsequent phosphorylation by GSK-3. GSK-3β destabilizes β-catenin by phosphorylating it at Ser33, Ser37, and Thr41. Mutations in these phosphorylation sites result in the stabilization of β-catenin protein levels, and have been found in many tumor cell lines. PKA phosphorylates β-catenin at Ser675. Phosphorylation at Ser675 induces β-catenin accumulation in the nucleus and increases its transcriptional activity.

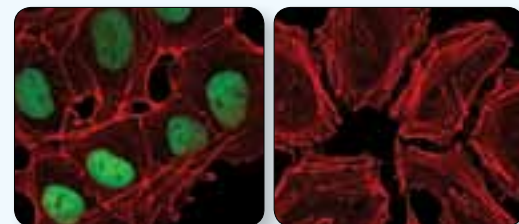


Phospho-β-Catenin (Ser675) (D2F1) XP™ Rabbit mAb #4176: Confocal IF analysis of rat colon using #4176 (green). Actin filaments have been labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

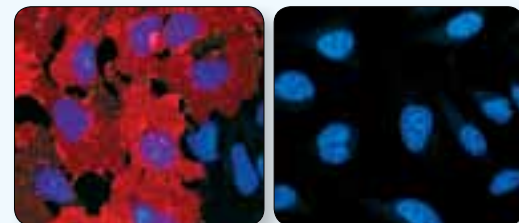
Embryonic Stem Cell Markers



Oct-4A (C30A3) Rabbit mAb (Alexa Fluor® 647 Conjugate) #5263: Confocal IF analysis of NTERA-2 (left) and HeLa (right) cells using #5263 (blue). Actin filaments were labeled with DY-554 phalloidin (red).



Nanog (D73G4) XP™ Rabbit mAb #4903: Confocal IF analysis of NTERA-2 (left) and HeLa (right) cells using #4903 (green). Actin filaments were labeled with DY-554 phalloidin (red).



SSEA4 (MC813) Mouse mAb (Alexa Fluor® 555 Conjugate) #5835: Confocal IF analysis of nonpermeabilized NTERA-2 (left) and HeLa (right) cells using #5835 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Induced Pluripotent Stem (iPS) Cells

	Applications	Reactivity
NEW #9092 StemLite™ iPS Cell Reprogramming Antibody Kit	IF-IC	H
#3695 LIN28A (D84C11) XP™ Rabbit mAb	W, IF-IC, F	H, (R, Mk)
#3978 LIN28A (A177) Antibody	W, IP, IHC-P, IF-IC, F	H, M, (Mk)
#5930 LIN28A (6D1F9) Mouse mAb	W, IF-IC	H
#5605 c-Myc (D84C12) XP™ Rabbit mAb	W, IP, IF-IC, F, ChIP	H, M, R, (Mk, Dg, Pg)
NEW #4903 Nanog (D73G4) XP™ Rabbit mAb	W, IHC-P, IF-IC, F	H, (Mk)
NEW #5448 Nanog (D73G4) XP™ Rabbit mAb (Alexa Fluor® 647 Conjugate)	IF-IC, F	H, (Mk)
#3580 Nanog Antibody	W, IF-IC, F, ChIP	H
#4893 Nanog (1E6C4) Mouse mAb	W, IHC-P, IF-IC, F	H
#2840 Oct-4A (C30A3) Rabbit mAb	W, IF-IC, F	H, M
#5177 Oct-4A (C30A3) Rabbit mAb (Alexa Fluor® 488 Conjugate)	IF-IC, F	H, M
#5263 Oct-4A (C30A3) Rabbit mAb (Alexa Fluor® 647 Conjugate)	IF-IC, F	H, M
#2890 Oct-4A (C52G3) Rabbit mAb	W, IHC-P, IF-IC, F, ChIP	H
#2750 Oct-4 Antibody	W, IHC-P, IF-IC, F, ChIP	H
#3579 Sox2 (D6D9) XP™ Rabbit mAb	W, IHC-P, IF-IC, F	H, (Mk, B, Dg)
NEW #5049 Sox2 (D6D9) XP™ Rabbit mAb (Alexa Fluor® 488 Conjugate)	IF-IC, F	H, (Mk, B, Dg)
NEW #5179 Sox2 (D6D9) XP™ Rabbit mAb (Alexa Fluor® 555 Conjugate)	IF-IC	H, (Mk, B, Dg)
NEW #5067 Sox2 (D6D9) XP™ Rabbit mAb (Alexa Fluor® 647 Conjugate)	IF-IC, F	H, (Mk, B, Dg)
NEW #4900 Sox2 (L1D6A2) Mouse mAb	W, IF-IC, F	H, M, (R, B, Dg)

Blastocyst

	Applications	Reactivity
#9656 StemLite™ Pluripotency Kit	IF-IC	H
NEW #9094 StemLite™ Pluripotency Surface Marker Antibody Kit	IF-IC	H
NEW #9093 StemLite™ Pluripotency Transcription Factor Antibody Kit	IF-IC	H
#3195 E-Cadherin (24E10) Rabbit mAb	W, IHC-P, IHC-F, IF-IC, F	H, M, (Dg)
#3199 E-Cadherin (24E10) Rabbit mAb (Alexa Fluor® 488 Conjugate)	IF-IC, IF-P, F	H, M, (Dg)
NEW #4295 E-Cadherin (24E10) Rabbit mAb (Alexa Fluor® 555 Conjugate)	IF-IC	H, M, (Dg)
#4065 E-Cadherin Antibody	W, IP, IHC-P, IF-IC	H, M, (B, Dg)
#2818 Cripto Antibody (Mouse Specific)	W, IP, IF-IC	M
NEW #4903 Nanog (D73G4) XP™ Rabbit mAb	W, IHC-P, IF-IC, F	H, (Mk)
NEW #5448 Nanog (D73G4) XP™ Rabbit mAb (Alexa Fluor® 647 Conjugate)	IF-IC, F	H, (Mk)
#3580 Nanog Antibody	W, IF-IC, F, ChIP	H
#4893 Nanog (1E6C4) Mouse mAb	W, IHC-P, IF-IC, F	H
#2840 Oct-4A (C30A3) Rabbit mAb	W, IF-IC, F	H, M
NEW #5177 Oct-4A (C30A3) Rabbit mAb (Alexa Fluor® 488 Conjugate)	IF-IC, F	H, M
NEW #5263 Oct-4A (C30A3) Rabbit mAb (Alexa Fluor® 647 Conjugate)	IF-IC, F	H, M
#2890 Oct-4A (C52G3) Rabbit mAb	W, IHC-P, IF-IC, F, ChIP	H
#2750 Oct-4 Antibody	W, IHC-P, IF-IC, F, ChIP	H, (Mk)
NEW #5339 Smad2 (D43B4) XP™ Rabbit mAb	W, IP, IF-IC, F, ChIP	H, M, R, Mk
#3122 Smad2 (86F7) Rabbit mAb	W, IP, IF-IC	H, Mk
#3579 Sox2 (D6D9) XP™ Rabbit mAb	W, IHC-P, IF-IC, F	H, (Mk, B, Dg)
NEW #5049 Sox2 (D6D9) XP™ Rabbit mAb (Alexa Fluor® 488 Conjugate)	IF-IC, F	H, (Mk, B, Dg)
NEW #5179 Sox2 (D6D9) XP™ Rabbit mAb (Alexa Fluor® 555 Conjugate)	IF-IC	H, (Mk, B, Dg)
NEW #5067 Sox2 (D6D9) XP™ Rabbit mAb (Alexa Fluor® 647 Conjugate)	IF-IC, F	H, (Mk, B, Dg)
NEW #4900 Sox2 (L1D6A2) Mouse mAb	W, IF-IC, F	H, M, (R, B, Dg)
#4744 SSEA1 (MC480) Mouse mAb	IHC-P, IF-IC, F	M
#4755 SSEA4 (MC813) Mouse mAb	IF-IC	H
NEW #5835 SSEA4 (MC813) Mouse mAb (Alexa Fluor® 555 Conjugate)	IF-IC	H
NEW #5836 SSEA4 (MC813) Mouse mAb (Alexa Fluor® 647 Conjugate)	IF-IC, F	H
#9139 Stat3 (124H6) Mouse mAb	W, IP, IHC-P, IF-IC, F, ChIP	H, M, R, Mk
#3737 SUZ12 (D39F6) XP™ Rabbit mAb	W, IP, IF-IC, ChIP	H, M, R, Mk
#4746 TRA-1-60(S) (TRA-1-60(S)) Mouse mAb	W, IHC-P, IF-IC, F	H
#4745 TRA-1-81 (TRA-1-81) Mouse mAb	IHC-P, IF-IC, F	H

Trophectoderm

	Applications	Reactivity
#3977 Cdx2 Antibody	W, IP, IHC-P, IF-IC, F	H, M, R

Application References:

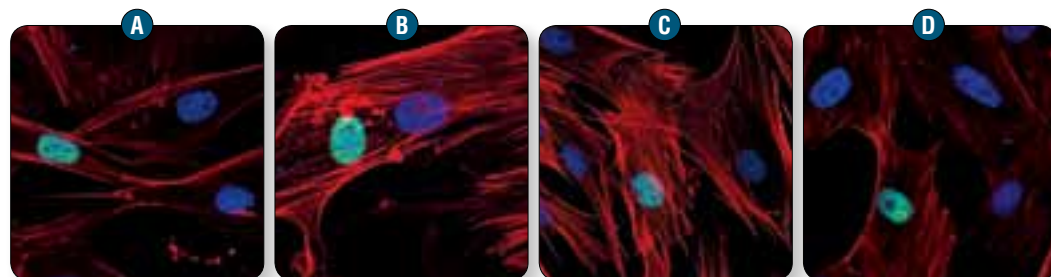
SSEA4 (MC813) Mouse mAb #4755: Krupnick, J.G. et al. (1994) Globo-series carbohydrate antigens are expressed in different forms on human and murine teratocarcinoma-derived cells. *Int. J. Cancer* 59, 692–698.

TRA-1-81 (TRA-1-81) Mouse mAb #4745: Andrews, P.W. et al. (1996) Comparative analysis of cell surface antigens expressed by cell lines derived from human germ cell tumours. *Int. J. Cancer* 66, 806–816.

StemLite™ Kits

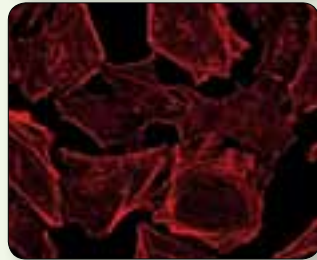
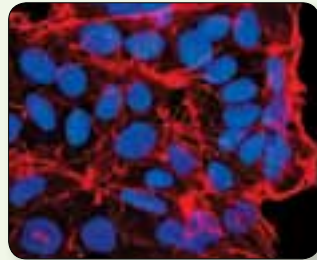
The StemLite™ Kits contain panels of antibodies for the detection of various proteins used to mark pluripotency, or combinations of proteins that have been used to reprogram somatic cells to induced pluripotent stem (iPS) cells. These kits can be used to track pluripotency status through surface markers or transcription factors, or the efficiency of expression of the reprogramming factors following transfection, viral transduction, or other means of protein delivery. The kit components are pre-optimized for parallel use in immunofluorescent analysis at a standard dilution, but components are also validated for use in other applications—please refer to individual product datasheet information for application-specific recommendations. Enough reagents are provided for 160 immunofluorescent assays, based on a working volume of 100 μL.

	Applications	Reactivity
NEW #9092 StemLite™ iPS Cell Reprogramming Antibody Kit	IF-IC	H
#9656 StemLite™ Pluripotency Antibody Kit	IF-IC	H
NEW #9094 StemLite™ Pluripotency Surface Marker Antibody Kit	IF-IC	H
NEW #9093 StemLite™ Pluripotency Transcription Factor Antibody Kit	IF-IC	H

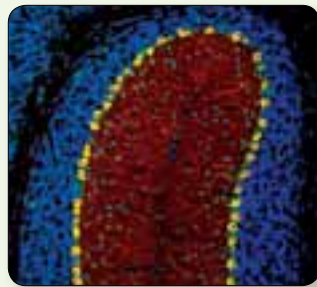


StemLite™ iPS Cell Reprogramming Antibody Kit #9092: Confocal IF analysis of lentiviral transduced human fibroblast cells using Oct-4A (C30A3) Rabbit mAb #2840 (A), Sox2 (D6D9) XP™ Rabbit mAb #3579 (B), c-Myc (D84C12) XP™ Rabbit mAb #5605 (C), and KLF4 Antibody #4038 (D) (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

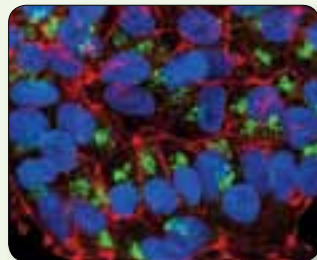
Lineage-specific Markers



Sox2 (D6D9) XP™ Rabbit mAb (Alexa Fluor® 647 Conjugate) #5067: Confocal IF analysis of NTERA-2 (top) and HeLa (bottom) cells using #5067 (blue). Actin filaments were labeled with DY-554 phalloidin (red).



Neurofilament-M (RMO 14.9) Mouse mAb #2838: Confocal IF analysis of mouse cerebellum using #2838 (green) and Calbindin Antibody (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



SPARC Antibody #5420: Confocal IF analysis of NTERA-2 (top) and SK-OV-3 (bottom) cells using #5420 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Primordial Germ Cell

	Applications	Reactivity
#9115 Blimp-1/PRDI-BF1 (C14A4) Rabbit mAb	W, IP, IF-IC	H, M, (Mk)
#2071 Mili Antibody	W, IP, IHC-P, IF-F	M
#2079 Miwi (G82) Antibody	W, IP, IHC-P, IF-F	M
#2840 Oct-4A (C30A3) Rabbit mAb	W, IF-IC, F	H, M
NEW #5177 Oct-4A (C30A3) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H, M
NEW #5263 Oct-4A (C30A3) Rabbit mAb (Alexa Fluor® 647 Conjugate)	AF IF-IC, F	H, M
#2890 Oct-4A (C52G3) Rabbit mAb	W, IHC-P, IF-IC, F, ChIP	H
#2750 Oct-4 Antibody	W, IHC-P, IF-IC, F, ChIP	H
#4744 SSEA1 (MC480) Mouse mAb	IHC-P, IF-IC, F	M
NEW #5835 SSEA4 (MC813) Mouse mAb (Alexa Fluor® 555 Conjugate)	AF IF-IC	H
NEW #5836 SSEA4 (MC813) Mouse mAb (Alexa Fluor® 647 Conjugate)	AF IF-IC, F	H
NEW #5868 TIF1β (4E1) Mouse mAb	W, IF-IC	H

Ectoderm (Neuronal Lineage)

	Applications	Reactivity
Neural Stem Cell		
#3508 Brg1 (A52) Antibody	W, IF-IC	H, M, Mk, (R)
#2088 LEDGF (C57G11) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, (Mk)
NEW #5663 Musashi-1 (D46A8) XP™ Rabbit mAb	XP W, IF-F	H, M, R
#2154 Musashi Antibody	W, IF-F	H, M, R, (Z)
#4760 Nestin (Rat-401) Mouse mAb	IHC-P, IF-F	R
#4194 Sox1 Antibody	W, IF-F	M, R, (H)
#3579 Sox2 (D6D9) XP™ Rabbit mAb	XP W, IHC-P, IF-IC, F	H, (Mk, B, Dg)
NEW #5049 Sox2 (D6D9) XP™ Rabbit mAb (Alexa Fluor® 488 Conjugate)	XP AF IF-IC, F	H, (Mk, B, Dg)
NEW #5179 Sox2 (D6D9) XP™ Rabbit mAb (Alexa Fluor® 555 Conjugate)	XP AF IF-IC	H, (Mk, B, Dg)
NEW #5067 Sox2 (D6D9) XP™ Rabbit mAb (Alexa Fluor® 647 Conjugate)	XP AF IF-IC, F	H, (Mk, B, Dg)
NEW #4900 Sox2 (L1D6A2) Mouse mAb	W, IF-IC, F	H, M, (R, B, Dg)
#5568 β3-Tubulin (D71G9) XP™ Rabbit mAb	XP W, IP, IF-F	H, M, R
#4466 β3-Tubulin (TU-20) Mouse mAb	W, IHC-P, IF-F	H, M, R
Neural Crest		
#4744 SSEA1 (MC480) Mouse mAb	IHC-P, IF-IC, F	M
Neurogenesis		
#3670 GFAP (GA5) Mouse mAb	W, IP, IHC-P, IF-F	H, M, R
#3655 GFAP (GA5) Mouse mAb (Alexa Fluor® 488 Conjugate)	AF IF-F	H, M, R
#3656 GFAP (GA5) Mouse mAb (Alexa Fluor® 555 Conjugate)	AF IF-F	H, M, R
#3657 GFAP (GA5) Mouse mAb (Alexa Fluor® 647 Conjugate)	AF IF-F	H, M, R
#4542 MAP2 Antibody	W, IF-F, IF-IC	H, M, R, Mk
#2837 Neurofilament-L (C28E10) Rabbit mAb	W, IHC-P, IF-F	H, M, R
#2835 Neurofilament-L (DA2) Mouse mAb	W, IHC-P, IF-F	H, M, R
#2838 Neurofilament-M (RMO 14.9) Mouse mAb	W, IP, IHC-P, IF-IC	H, M, R

Mesoderm (Mesenchymal Lineage)

	Applications	Reactivity
Mesenchymal Stem Cell		
#3074 c-Kit (D13A2) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M
#3308 c-Kit (Ab81) Mouse mAb	W, IP, IF-IC, F	H
#3310 c-Kit (Ab81) Mouse mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H
NEW #5420 SPARC Antibody	W, IP, IF-IC	H, M, Mk
Adipogenesis		
#2295 C/EBPα Antibody	W, IF-IC	H, M, R
#2443 PPARγ (81B8) Rabbit mAb	W, IP, IF-IC	H, M, (R)
#2435 PPARγ (C26H12) Rabbit mAb	W, IHC-P, IF-IC	H, M, (R)

Myogenesis

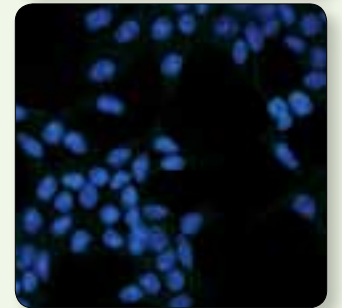
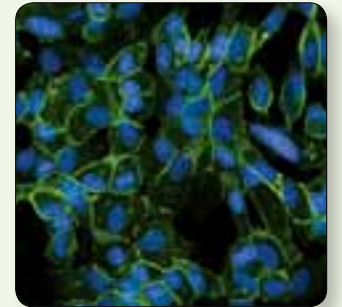
#5332 Desmin (D93F5) XP™ Rabbit mAb	XP W, IF-F, IF-IC	H, M, R, (Mk)
#4024 Desmin Antibody	W, IF-F	M, R, (H, Mk)
Osteo- and Chondrogenesis		
NEW #4442 OB-Cadherin (P707) Antibody	W, IP, IF-IC	H, M, R, (Mk)

Mesoderm (Hematopoietic Lineage)

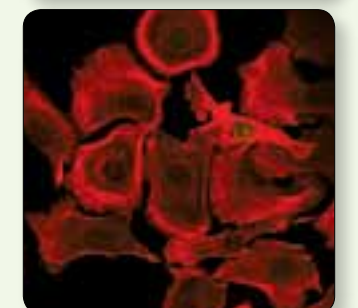
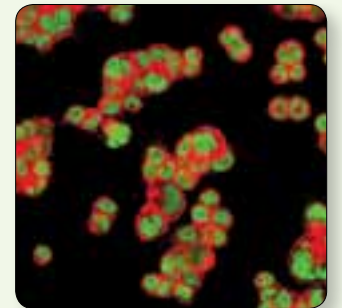
	Applications	Reactivity
Hemangioblast		
#4336 AML1 (D33G6) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H
#4334 AML1 Antibody	W, IF-IC, F	H, Mk
#4589 GATA-1 (D24E4) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H
#3535 GATA-1 (D52H6) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, R
#2479 VEGF Receptor 2 (55B11) Rabbit mAb	W, IP, IHC-P, IF-F, IF-IC, F	H, M
Hematopoietic Stem Cell		
#4336 AML1 (D33G6) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H
#4334 AML1 Antibody	W, IF-IC, F	H, Mk
#4115 CD31 Antibody	W, IP, IF-IC	H
#4589 GATA-1 (D24E4) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H
#3535 GATA-1 (D52H6) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, R
NEW #5852 GATA-3 (D13C9) XP™ Rabbit mAb	XP W, IF-IC	H, (Mk)
#3074 c-Kit (D13A2) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M
#3308 c-Kit (Ab81) Mouse mAb	W, IP, IF-IC, F	H
#3310 c-Kit (Ab81) Mouse mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H
#2258 PU.1 (9G7) Rabbit mAb	W, IP, IHC-P, IF-IC, F, ChIP	H, M, (Mk, Pg)
#2266 PU.1 Antibody	W, IP, IHC-P, IF-IC, F, ChIP	H, M, (Mk, Pg)
Angioblast		
#2500 VE-Cadherin (D87F2) XP™ Rabbit mAb	XP W, IP, IF-IC	H, Dm, B, Pg, (Mk)
#2158 VE-Cadherin Antibody	W, IF-IC	H, Dm, B
#2479 VEGF Receptor 2 (55B11) Rabbit mAb	W, IP, IHC-P, IF-F, IF-IC, F	H, M
Endothelial Cell		
#2500 VE-Cadherin (D87F2) XP™ Rabbit mAb	XP W, IP, IF-IC	H, Dm, B, Pg, (Mk)
#2158 VE-Cadherin Antibody	W, IF-IC	H, Dm, B
#3528 CD31 (PECAM-1) (89C2) Mouse mAb	W, IP, IHC-P, IF-IC, F	H

Endoderm

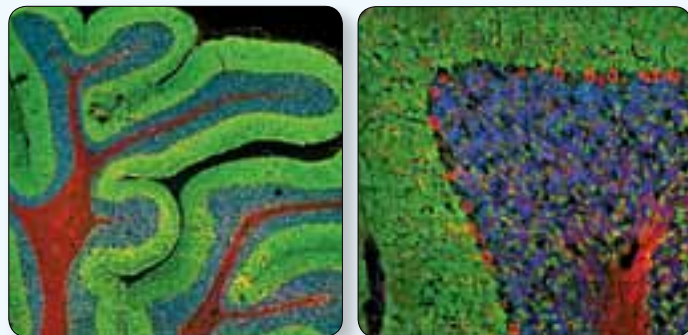
	Applications	Reactivity
Endodermal Progenitor		
NEW #5851 GATA-6 (D61E4) XP™ Rabbit mAb	XP W, IF-IC	H
NEW #5868 TIF1β (4E1) Mouse mAb	W, IF-IC	H
Hepatogenesis		
#3903 AFP (3H8) Mouse mAb	W, IF-IC	H, M
#3180 Fatty Acid Synthase (C20G5) Rabbit mAb	W, IP, IHC-P, IHC-F, IF-IC	H, M, R, (B)
#3143 FoxA2/HNF3β Antibody	W, IP, IF-IC	H, (M, R)
#3113 HNF4α (C11F12) Rabbit mAb	W, IHC-P, IF-IC	H
Pancreatic Cell		
#4593 C-Peptide Antibody	IHC-P, IHC-F, IF-F, IF-IC	H, M, R
#2760 Glucagon Antibody	IHC-P, IHC-F, IF-F	H, M, R
#3014 Insulin (C27C9) Rabbit mAb	IHC-P, IF-F, IF-IC, F	H, M, R
#4590 Insulin Antibody	IHC-P, IF-F, IF-IC, F	H, M, R



OB-Cadherin (P707) Antibody #4442: Confocal IF analysis of PC-3 (top) and LNCaP (bottom) cells using #4442 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

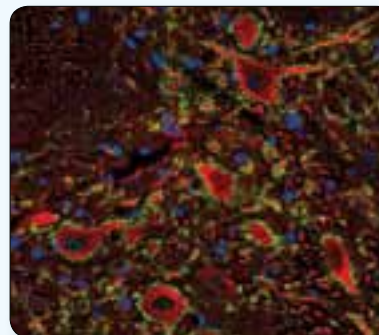


GATA-6 (D61E4) XP™ Rabbit mAb #5851: Confocal IF analysis of KM12 (top) and SK-OV-3 (bottom) cells using #5851 (green). Actin filaments were labeled with DY-554 phalloidin (red).

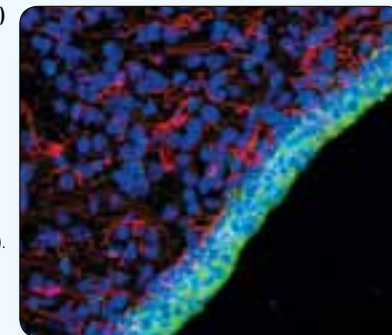


Synapsin-1 (D12G5) XP™ Rabbit mAb #5297: Confocal IF analysis of mouse brain using #5297 (green) and β 3-Tubulin (TU-20) Mouse mAb #4466 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Synaptophysin (D35E4) XP™ Rabbit mAb #5461: Confocal IF analysis of P4 mouse brain using #5461 (green) and β 3-Tubulin (TU-20) Mouse mAb #4466 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Musashi-1 (D46A8) XP™ Rabbit mAb #5663: Confocal IF analysis of P4 rat brain using #5663 (green) and Nestin (Rat-401) Mouse mAb #4760 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



	Applications	Reactivity
#2452 APP Antibody	W, IF-IC	H, M, R, Mk
#2450 APP/ β -Amyloid (NAB228) Mouse mAb	W, IHC-P, IF-P	H, (Mk, B, Dg, Pg)
#3858 APPL1 (D83H4) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
#2454 β -Amyloid Antibody	W, IHC-P, IF-P	H
NEW #5664 CNPase (D83E10) XP™ Rabbit mAb	XP W, IP, IF-F	H, M, R
#9198 Phospho-CREB (Ser133) (87G3) Rabbit mAb	W, IHC-P, IHC-F, IF-F, IF-IC, F, ChIP	H, M, R
#9187 Phospho-CREB (Ser133) (87G3) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-F, IF-IC, F	H, M, R
#4820 CREB (D76D11) Rabbit mAb	W, IP, IF-F, IF-IC, F, ChIP	H, M, R, Hm, Mk, Dm
#9197 CREB (48H2) Rabbit mAb	W, IP, IHC-P, IHC-F, IF-F, IF-IC, F, ChIP	H, M, R, Mk, Dm
#9104 CREB (86B10) Mouse mAb	W, IF-F, IF-IC, F	H, M, R, Mk
#9393 CRMP-2 Antibody	W, IF-IC	H, M, R
#2306 DARPP-32 (19A3) Rabbit mAb	W, IP, IHC-P, IF-F	M, R, (H)
#2302 DARPP-32 Antibody	W, IF-F	H, M, R
#3453 Phospho-Doublecortin (Ser334) Antibody	W, IP, IF-F	H, M, R
#4604 Doublecortin Antibody	W, IP, IF-F, F	H, M, R, Mk, Dm
#2771 DYRK1A Antibody	W, IP, IF-F	H, M, (R)
NEW #5684 EAAT1 (D44E2) XP™ Rabbit mAb	XP W, IP, IF-F	H, M, R
#3838 EAAT2 Antibody	W, IF-F	M, R, (H)
#4153 EGR1 (15F7) Rabbit mAb	W, IP, IHC-P, IF-IC, ChIP	H, M, R, (B)
#4154 EGR1 (44D5) Rabbit mAb	W, IP, IF-IC, F, ChIP	H, M, R, (B)
NEW #5843 GAD2 (D5G2) XP™ Rabbit mAb	XP W, IP, IF-F	H, M, R
#3670 GFAP (GA5) Mouse mAb	W, IP, IHC-P, IF-F	H, M, R
#3655 GFAP (GA5) Mouse mAb (Alexa Fluor® 488 Conjugate)	AF IF-F	H, M, R
#3656 GFAP (GA5) Mouse mAb (Alexa Fluor® 555 Conjugate)	AF IF-F	H, M, R
#3657 GFAP (GA5) Mouse mAb (Alexa Fluor® 647 Conjugate)	AF IF-F	H, M, R
#3369 GSTP1 (3F2) Mouse mAb	W, IHC-P, IF-IC	H, Mk
NEW #5656 Huntington (D7F7) XP™ Rabbit mAb	XP W, IP, IF-F	H, M, R
#2773 Huntingtin Antibody	W, IP, IF-F	H, M, R
#4541 Phospho-MAP2 (Ser136) Antibody	W, IF-F	H, R, Mk, (M)
#4542 MAP2 Antibody	W, IF-F, IF-IC	H, M, R, Mk
NEW #5663 Musashi-1 (D46A8) XP™ Rabbit mAb	XP W, IF-F	H, M, R
#2154 Musashi Antibody	W, IF-F	H, M, R, (Z)
#3402 Myosin Va Antibody	W, IP, IF-IC	H, M, R, (Mk, C)
#4760 Nestin (Rat-401) Mouse mAb	IHC-P, IF-F	R
#2836 Neurofilament-H (RMdO 20) Mouse mAb	W, IP, IHC-P, IF-F	H, M, R
#2837 Neurofilament-L (C28E10) Rabbit mAb	W, IHC-P, IF-F	H, M, R

Application References:

APP Antibody #2452: Muresan, Z. and Muresan, V. (2004) A phosphorylated, carboxy-terminal fragment of beta-amyloid precursor protein localizes to the splicing factor compartment. *Hum. Mol. Genet.* 13, 475–488.

β -Amyloid Antibody #2454: Saiz-Sanchez, D. et al. (2010) Somatostatin, tau, and beta-amyloid within the anterior olfactory nucleus in Alzheimer disease. *Exp. Neurol.* 223, 347–350.

Phospho-CREB (Ser133) (87G3) Rabbit mAb #9198: Gaddini, L. et al. (2009) Early effects of high glucose in retinal tissue cultures: Renin-Angiotensin system-dependent and -independent signaling. *Neurobiol. Dis.* 35, 278–285.

GFAP (GA5) Mouse mAb #3670: Davies, J.E. et al. (2008) Transplanted astrocytes derived from BMP- or CNTF-treated glial-restricted precursors have opposite effects on recovery and allodynia after spinal cord injury. *J. Biol. J.* 24.

Musashi Antibody #2154: Shiras, A. et al. (2007) Spontaneous transformation of human adult nontumorigenic stem cells to cancer stem cells is driven by genomic instability in a human model of glioblastoma. *Stem Cells* 25, 1478–1489.

Neurofilament-L (DA2) Mouse mAb #2835: Haddad, L.A. et al. (2002) The TSC1 tumor suppressor hamartin interacts with neurofilament-L and possibly functions as a novel integrator of the neuronal cytoskeleton. *J. Biol. Chem.* 277, 44180–44186. / Shaw, G. et al. (2002) Preferential transformation of human neuronal cells by human adenoviruses and the origin of HEK 293 cells. *FASEB J.* 16, 869–871. / Evans, J. et al. (2001) Characterization of mitotic neurons derived from adult rat hypothalamus and brain stem. *J. Neurophysiol.* 87, 1076–1085.

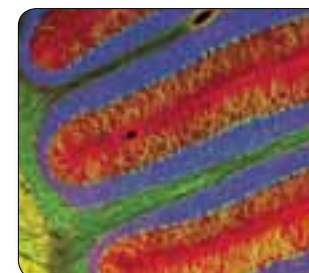
STOP (175) Mouse mAb #4265: Baratier, J. et al. (2006) Cloning, expression, and properties of the microtubule-stabilizing protein STOP. *J. Biol. Chem.* 281, 19561–19569. / Bosc, C. et al. (1996) Phosphorylation of microtubule-associated protein STOP by calmodulin kinase II. *Proc. Natl. Acad. Sci. USA* 93, 2125–2130.

Tau (Tau46) Mouse mAb #4019: Saiz-Sanchez, D. et al. (2010) Somatostatin, tau, and beta-amyloid within the anterior olfactory nucleus in Alzheimer disease. *Exp. Neurol.* 223, 347–350. / Bramblett, G. T. et al. (1993) New phosphorylation sites identified in hyperphosphorylated tau (paired helical filament-tau) from Alzheimer's disease brain using nano-electrospray mass spectrometry. *Neuron* 10, 1089–1099.

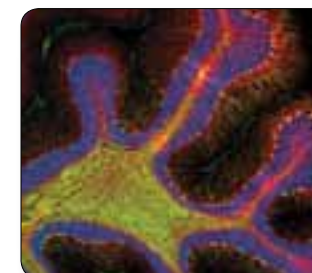
	Applications	Reactivity
#2835 Neurofilament-L (DA2) Mouse mAb	W, IHC-P, IF-F	H, M, R
#2838 Neurofilament-M (RMO 14.9) Mouse mAb	W, IP, IHC-P, IF-IC	H, M, R
#3366 Neuropilin-2 (D39A5) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-F	M, R
#3394 NHERF1 (A310) Antibody	W, IF-IC	H
#3381 Phospho-NMDAR1 (Ser890) Antibody	W, IF-F	H, M, R
#4236 nNOS (C12H1) Rabbit mAb	W, IP, IHC-P, IF-F	H, M, R
#4231 nNOS (C7D7) Rabbit mAb	W, IP, IHC-P, IF-F	H, M, R
#3451 Phospho-mu-Opioid Receptor (Ser375) Antibody	W, IP, IF-F	M, (H)
#2680 p35/25 (C64B10) Rabbit mAb	W, IP, IHC-P, IF-F	H, M, R
#3450 PSD95 (D27E11) XP™ Rabbit mAb	XP W, IP, IF-F	H, M, R
#2507 PSD95 Antibody	W, IP, IF-F	H, M, R
NEW #5657 RAIG1 Antibody	W, IF-IC	H
#4396 STEP (23E5) Mouse mAb	W, IP, IF-F	M, R
#4265 STOP (175) Mouse mAb	W, IF-F	H, M, R
#2312 Synapsin Antibody	W, IF-F	M, R, (H)
NEW #5297 Synapsin-1 (D12G5) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-F	H, M, R
NEW #5461 Synaptophysin (D35E4) XP™ Rabbit mAb	XP W, IP, IF-F	H, M, R
#4179 α -Synuclein (D37A6) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-F	M, R
#2628 α -Synuclein Antibody (IF Preferred)	W, IF-F	H, M, R
#2647 α -Synuclein (Syn204) Mouse mAb	W, IHC-P, IF-P	H
#2644 α/β -Synuclein (Syn205) Mouse mAb	W, IP, IHC-P, IF-F	H, M, R
#3347 SYT1 Antibody	W, IF-IC, F	H, M, R, Mk
#4019 Tau (Tau46) Mouse mAb	W, IHC-P, IF-F, IF-P	H, M, R, (B)
#3448 TDP43 (G400) Antibody	W, IP, IF-IC	H, M, R
#3449 TDP43 (A260) Antibody	W, IF-IC	H, M, R
#4609 Trk (pan) (C17F1) Rabbit mAb	W, IP, IF-IC, F	H, M, R
#3376 TrkC (C44H5) Rabbit mAb	W, IP, IF-IC	H, M, R
NEW #5568 β 3-Tubulin (D71G9) XP™ Rabbit mAb	XP W, IP, IF-F	H, M, R
#4466 β 3-Tubulin (TU-20) Mouse mAb	W, IHC-P, IF-F	H, M, R
#2791 Phospho-Tyrosine Hydroxylase (Ser40) Antibody	W, IF-IC	R, (H, M)
#2792 Tyrosine Hydroxylase Antibody	W, IF-IC	H, M, R

β 3-Tubulin

The cytoskeleton consists of three types of cytosolic fibers: microtubules, microfilaments (actin filaments), and intermediate filaments. Globular tubulin subunits comprise the microtubule building block, with α/β -tubulin heterodimers forming the tubulin subunit common to all eukaryotic cells. Neuronal marker β 3-tubulin has been implicated as a critical regulator of axon guidance and maintenance. Mutations in β 3-tubulin are associated with congenital fibrosis of extraocular muscles type 3A, a disorder characterized by ophthalmoplegia (inability to move eyes) and ptosis (eyelid drooping).

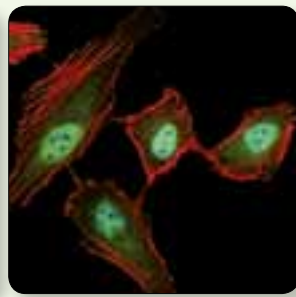
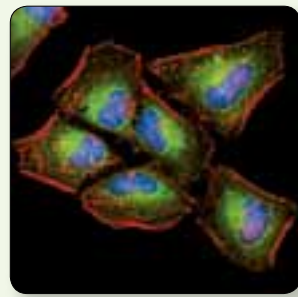


β 3-Tubulin (D71G9) XP™ Rabbit mAb #5568: Confocal IF analysis of mouse cerebellum using #5568 (green) and Tau (Tau46) Mouse mAb #4019 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

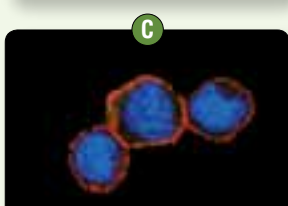
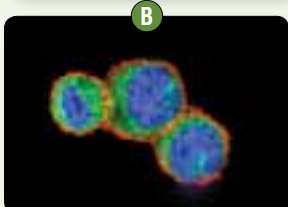
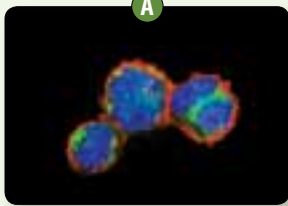


β 3-Tubulin (TU-20) Mouse mAb #4466: Confocal IF analysis of rat cerebellum using #4466 (green) and Neurofilament-L (C28E10) Rabbit mAb #2837 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

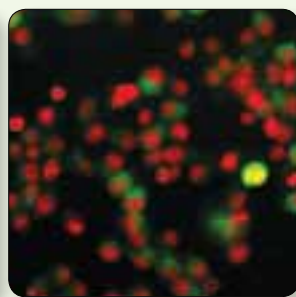
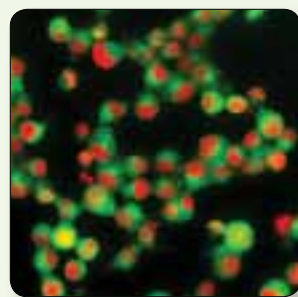
Immunology and Inflammation



NF-κB p65 (E498) Antibody #3987:
Confocal IF analysis of HeLa cells, untreated (left) or treated with hTNF-α #8902 (20 ng/ml, 20 min, right), using #3987 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Phospho-TBK1/NAK (Ser172) (D52C2) XP™ Rabbit mAb #5483: Confocal IF analysis of THP-1 cells differentiated with TPA #4174 (80 nM, overnight, **A**), followed by treatment with LPS (1 µg/ml, 1 hr, **B**) or LPS with λ phosphatase treatment (**C**) using #5483 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Phospho-RelB (Ser552) (D41B9) XP™ Rabbit mAb #5025: Confocal IF analysis of Raji cells, treated with TPA #4174 (left) or serum-starved (right) using #5025 (green). Red = Propidium iodide (fluorescent DNA dye).

Application References:

IRF-4 Antibody #4964: Staudt, V. et al. (2010) Interferon-regulatory factor 4 is essential for the developmental program of T helper 9 cells. *Immunity* 33, 192–202.

Phospho-NF-κB p65 (Ser536) (93H1) Rabbit mAb #3033: Xie, S. et al. (2010) IL-17 activates the canonical NF-κappaB signaling pathway in autoimmune B cells of BXD2 mice to upregulate the expression of regulators of G-protein signaling 16. *J. Immunol.* 184, 2289–2296. / Yadav, U.C. et al. (2009) Prevention of endotoxin-induced uveitis in rats by benfotiamine, a lipophilic analogue of vitamin B1. *Invest. Ophthalmol. Vis. Sci.* 50, 2276–2282.

Phospho-Stat3 (Tyr705) Antibody #9131: Guo, Z. et al. (2004) CDC91L1 (PIG-U) is a newly discovered oncogene in human bladder cancer. *Nat. Med.* 10, 374–381. / Bartoli, M. et al. (2000) Vascular endothelial growth factor activates STAT proteins in aortic endothelial cells. *J. Biol. Chem.* 275, 33189–33192.

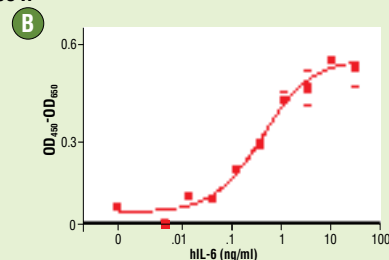
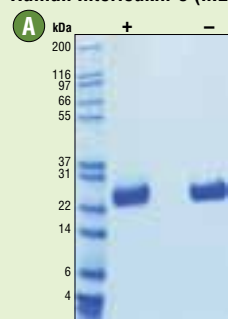
Recombinant Cytokines and Growth Factors

The world's highest quality antibody provider has now extended its expertise to Recombinant Cytokine and Growth Factor production.

Cell Signaling Technology (CST) offers a growing selection of recombinant cytokines and growth factors. These reagents are produced and bioassayed in-house, and are held to the same unparalleled quality standards as the CST™ antibodies you know and trust.

- Produced and bioassayed in-house with the highest purity and bioactivity.
- Comparison of multiple lots, stringent production specifications, and rigorous quality control ensure maximum lot-to-lot consistency.
- Products are produced in the appropriate system to optimize natural folding and conformation.
- Validation includes the use of CST antibodies to assess downstream signaling events.
- Multi-milligram quantities always available.
- Carrier or carrier free formulation available.

Human Interleukin-6 (hIL-6) #8904:



(A) Purity

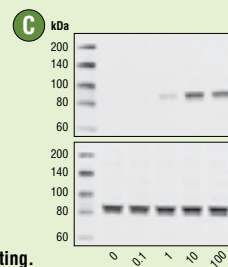
The purity of recombinant hIL-6 was determined by SDS-PAGE of 6 µg reduced (+) and non-reduced (-) recombinant hIL-6 #8904 and staining overnight with Coomassie Blue.

(B) Bioactivity

The proliferation of TF-1 cells treated with increasing concentrations of hIL-6 was assessed. After 48 hr treatment with hIL-6 #8904, cells were incubated with a tetrazolium salt and the OD₄₅₀ - OD₆₅₀ was determined.

(C) Downstream Signaling

WB analysis of extracts from TF-1 cells, untreated or treated with hIL-6 #8904 for 10 min, using Phospho-Stat1 (Tyr701) Antibody #9171 (upper) and Stat1 Antibody #9172 (lower).



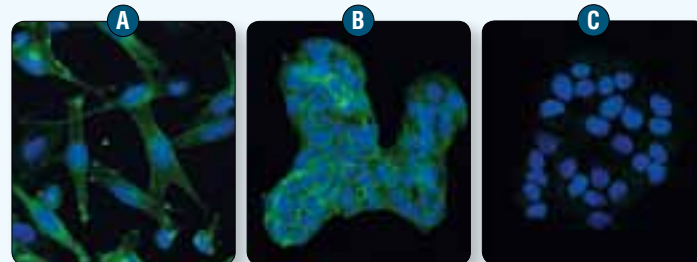
Visit our website for the most up-to-date product listing.

	Applications	Reactivity
#4327 Phospho-AML1 (Ser249) Antibody	W, IP, IF-IC, F	H
#4336 AML1 (D33G6) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H
#4334 AML1 Antibody	W, IF-IC, F	H, Mk
#9115 Blimp-1/PRDI-BF1 (C14A4) Rabbit mAb	W, IP, IF-IC	H, M, (Mk)
#3574 CD19 Antibody	W, IP, IF-IC, F	H, M
#3528 CD31 (PECAM-1) (89C2) Mouse mAb	W, IP, IHC-P, IF-IC, F	H
#5640 CD44 (8E2) Mouse mAb	W, IP, IF-IC, F	H, M, R
#3570 CD44 (156-3C11) Mouse mAb	W, IP, IHC-P, IF-IC, F	H
NEW #5173 Phospho-CD79A (Tyr182) Antibody	W, IP, IF-IC, F	H, (M, R)
#3351 CD79A Antibody	W, IHC-P, IF-IC	H
#2593 Evi-1 (C50E12) Rabbit mAb	W, IP, IF-IC, F	H
#4589 GATA-1 (D24E4) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H
#3535 GATA-1 (D52H6) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, R
#3890 HS1 (D83A8) XP™ Rabbit mAb (Human Specific)	XP W, IP, IHC-P, IF-IC, F	H
#4814 IκBα (L35A5) Mouse mAb (Amino-terminal Antigen)	W, IP, IHC-P, IF-IC, F	H, M, R, Mk, B, Pg
NEW #5443 Ikaros Antibody	W, IP, IF-IC	H, M, R
#3416 IKKε (D61F9) XP™ Rabbit mAb	XP W, IP, IF-IC, F	M, R
#4504 IRAK1 (D51G7) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, Mk
#4359 IRAK1 Antibody (Human Specific)	W, IF-IC	H, Mk
#4367 IRAK2 Antibody	W, IF-IC	H, M, R, Mk
#4369 IRAK-M Antibody	W, IF-IC	H, Mk
#4964 IRF-4 Antibody	W, IP, IF-IC, F, ChIP	H
#3257 IRF-5 Antibody	W, IP, IF-IC	H
#3230 Jak2 (D2E12) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, R, (Mk)
#3753 JunB (C37F9) Rabbit mAb	W, IP, IHC-P, IF-IC	H, M, R, Mk
#3746 JunB (G53) Antibody	W, IP, IF-IC	H
#3755 JunB (P169) Antibody	W, IP, IF-IC	H, M, (R)
#2088 LEDGF (C57G11) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, (Mk)
#3993 MAVS Antibody	W, IF-IC	H
#4983 MAVS Antibody (Rodent Specific)	W, IP, IF-IC	M, R
#4389 NFAT1 Antibody	W, IP, IF-IC	H, M, (R)
#3033 Phospho-NF-κB p65 (Ser536) (93H1) Rabbit mAb	W, IP, IF-IC, F	H, M, R, Hm, Mk, Pg, (Dg)
#4764 NF-κB p65 (C22B4) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, Mk, B, (Dg)
NEW #3987 NF-κB p65 (E498) Antibody	W, IP, IHC-P, IF-IC, F	H, M, R, Hm, Mk, Mi, B, Dg, Pg
#3187 NQO1 (A180) Mouse mAb	W, IHC-P, IF-IC	H
#3550 PIAS1 (D33A7) XP™ Rabbit mAb	XP W, IF-IC, F	H, M, R, Mk
#4730 Pim-2 (D1D2) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC	H
#2258 PU.1 (9G7) Rabbit mAb	W, IP, IHC-P, IF-IC, F, ChIP	H, M, (Mk, Pg)
#2266 PU.1 Antibody	W, IP, IHC-P, IF-IC, F, ChIP	H, M, (Mk, Pg)
NEW #6960 RCAS1 Antibody	W, IP, IHC-P, IF-IC, F	H, M, R, Mk
#4727 c-Rel Antibody	W, IP, IHC-P, IF-IC, F	H, Mk
NEW #5025 Phospho-RelB (Ser552) (D41B9) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H, M, (R, Mk, B, Dg)
#4999 Phospho-RelB (Ser552) Antibody	W, IP, IF-IC, F	H, M, (R, Mk, B, Dg)
#3493 RIP (D94C12) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Hm, Mk
#9171 Phospho-Stat1 (Tyr701) Antibody	W, IP, IF-IC, F, ChIP	H, M, R, (B, Dg)
#9177 Phospho-Stat1 (Ser727) Antibody	W, IF-IC, F, ChIP	H, M, R, (B)
#9145 Phospho-Stat3 (Tyr705) (D3A7) XP™ Rabbit mAb	XP W, IP, IHC-P, IHC-F, IF-IC, F, ChIP	H, M, R, Mk
#9131 Phospho-Stat3 (Tyr705) Antibody	W, IP, IF-IC, ChIP	H, M, R, Mk, (C, B)
#4113 Phospho-Stat3 (Tyr705) (M9C6) Mouse mAb	W, IP, IHC-P, IF-IC, F	H, M, R, Mk
#9134 Phospho-Stat3 (Ser727) Antibody	W, IP, IF-IC, ChIP	H, M, R, (B)
#9139 Stat3 (124H6) Mouse mAb	W, IP, IHC-P, IF-IC, F, ChIP	H, M, R, Mk
#4322 Phospho-Stat5 (Tyr694) (D47E7) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H, M, (R, Mk, B)
#9359 Phospho-Stat5 (Tyr694) (C11C5) Rabbit mAb	W, IP, IHC-P, F	H, M, (R, Mk, B)
#9314 Phospho-Stat5 (Tyr694) (C71E5) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, (R, Mk, B)
#9361 Phospho-Stat6 (Tyr641) Antibody	W, IP, IF-IC, F	H, (B)
NEW #5483 Phospho-TBK1/NAK (Ser172) (D52C2) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H, (M, R, Mk, X, B, Dg)
#5251 Phospho-TCTP (Ser46) Antibody	W, IHC-P, IF-IC, F	H, M, R, Mk
#4715 TRAF1 (45D3) Rabbit mAb	W, IP, IHC-P, IF-IC, F	H, (Mk)
#4710 TRAF1 (1F3) Rat mAb	W, IP, IHC-P, IF-IC	H, M, R
#4724 TRAF2 (C192) Antibody	W, IP, IF-IC	H, M, Mk
#2701 Phospho-Zap-70 (Tyr319)/Syk (Tyr352) Antibody	W, IP, IF-IC, F	H, M
#3165 Zap-70 (D1C10E) XP™ Rabbit mAb	XP W, IP, IF-F, F	H, M

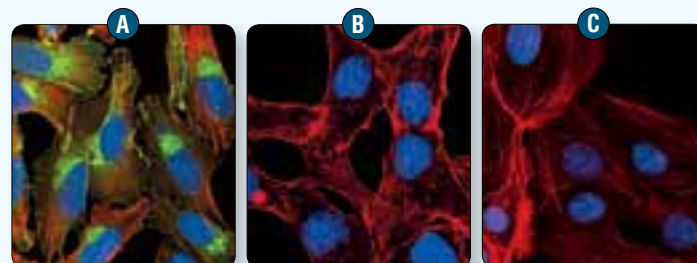
Tyrosine Kinases

	Applications	Reactivity
#2862 c-Abl Antibody	W, IP, IF-IC	H, M, R
#3902 Bcr Antibody	W, IF-IC, F	H, M, R, Pg
NEW #5583 DDR1 (D1G6) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
#2237 Phospho-EGF Receptor (Tyr1045) Antibody	W, IHC-P, IF-IC	H, R
#3777 Phospho-EGF Receptor (Tyr1068) (D7A5) XP™ Rabbit mAb	XP W, IHC-P, IF-IC, F	H, M, R, Mk
#2085 EGF Receptor (E746-A750del Specific) (6B6) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, IF-P, F	H
#3197 EGF Receptor (L858R Mutant Specific) (43B2) Rabbit mAb	W, IP, IHC-P, IF-IC, IF-P, F	H
#4267 EGF Receptor (D38B1) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, Mk
NEW #5616 EGF Receptor (D38B1) XP™ Rabbit mAb (Alexa Fluor® 488 Conjugate)	XP AF IF-IC, F	H, M, Mk
NEW #5108 EGF Receptor (D38B1) XP™ Rabbit mAb (Alexa Fluor® 555 Conjugate)	XP AF IF-IC	H, M, Mk
NEW #5588 EGF Receptor (D38B1) XP™ Rabbit mAb (Alexa Fluor® 647 Conjugate)	XP AF IF-IC, F	H, M, Mk
#3283 Phospho-FAK (Tyr397) Antibody	W, IF-IC, F	H, M, R, Hm, Pg
#3284 Phospho-FAK (Tyr925) Antibody	W, IP, IF-IC	H, (M, R, C)
#4574 FGF Receptor 3 (C51F2) Rabbit mAb	W, IP, IHC-P, IF-IC	H
#2165 HER2/ErbB2 (29D8) Rabbit mAb	W, IP, IHC-P, IHC-F, IF-IC, F	H, (M, R)
#3074 c-Kit (D13A2) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M
#3308 c-Kit (Ab81) Mouse mAb	W, IP, IF-IC, F	H
#3310 c-Kit (Ab81) Mouse mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H
#2787 Lck (73A5) Rabbit mAb	W, IP, IF-IC, F	H
NEW #4319 Mer (D21F11) XP™ Rabbit mAb	XP W, IP, IF-IC	H
#3174 PDGF Receptor α (D1E1E) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M
NEW #5241 PDGF Receptor α (D13C6) XP™ Rabbit mAb	XP W, IHC-P, IF-IC, F	H
#3169 PDGF Receptor β (28E1) Rabbit mAb	W, IP, IHC-P, IHC-F, IF-IC	H, M, R
#2109 Src (36D10) Rabbit mAb	W, IP, IHC-P, IHC-F, IF-F, IF-IC, F	H, M, R, Hm, Mk, B, Pg, (C)
#2108 Src Antibody	W, IP, IHC-P, IF-F, IF-IC, F	H, M, R, Mk, (C)
#2478 Phospho-VEGF Receptor 2 (Tyr1175) (19A10) Rabbit mAb	W, IHC-P, IF-IC	H, M
#2479 VEGF Receptor 2 (55B11) Rabbit mAb	W, IP, IHC-P, IF-F, IF-IC, F	H, M
#2701 Phospho-Zap-70 (Tyr319)/Syk (Tyr352) Antibody	W, IP, IF-IC, F	H, M
#3165 Zap-70 (D1C10E) XP™ Rabbit mAb	XP W, IP, IF-F, F	H, M

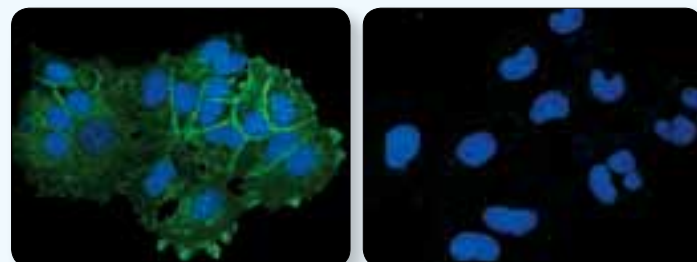
Mer (D21F11) XP™ Rabbit mAb #4319: Confocal IF analysis of SK-MEL-5 (A), Hep G2 (B), and MCF7 (C) cells using #4319 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



PDGF Receptor α (D13C6) XP™ Rabbit mAb #5241: Confocal IF analysis of NCI-H1703 (A), A172 (B), and HCC827 (C) cells using #5241 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



DDR1 (D1G6) XP™ Rabbit mAb #5583: Confocal IF analysis of MCF7 (left) and HeLa (right) cells using #5583 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Application References:
EGF Receptor (E746-A750del Specific) (6B6) XP™ Rabbit mAb #2085: Yu, J. et al. (2009) Mutation-specific antibodies for the detection of EGFR mutations in non-small-cell lung cancer. *Clin. Cancer Res.* 15, 3023–3028.

EGF Receptor (L858R Mutant Specific) (43B2) Rabbit mAb #3197: Yu, J. et al. (2009) Mutation-specific antibodies for the detection of EGFR mutations in non-small-cell lung cancer. *Clin. Cancer Res.* 15, 3023–3028.

Phospho-VEGF Receptor 2 (Tyr1175) (19A10) Rabbit mAb #2478: Kappas, N.C. et al. (2008) The VEGF receptor Flt-1 spatially modulates Fik-1 signaling and blood vessel branching. *J. Cell Biol.* 181, 847–858.

VEGF Receptor 2 (55B11) Rabbit mAb #2479: Antonescu, C.R. et al. (2009) KDR activating mutations in human angiosarcomas are sensitive to specific kinase inhibitors. *Cancer Res.* 15, 7175–7179.

MAP Kinase Signaling

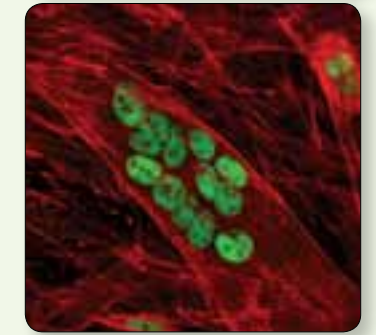
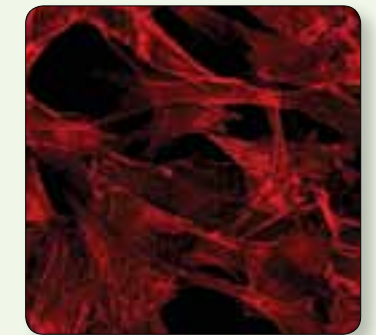
	Applications	Reactivity
#9221 Phospho-ATF-2 (Thr71) Antibody	W, IP, IHC-P, IHC-F, IF-IC, F	H, M, R, Mk
#5122 FAM129B Antibody	W, IP, IF-IC, F	H, Mk
#2251 FosB (5G4) Rabbit mAb	W, IP, IHC-P, IF-IC, F	H, M, R
#2263 FosB Antibody	W, IP, IF-IC	H, M, R
NEW #5348 Phospho-c-Fos (Ser32) (D82C12) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H, M, R, (Hm, Mk, B, Pg)
#2250 c-Fos (9F6) Rabbit mAb	W, IF-IC, F	H, M, R, (Hm, B, Pg)
#9261 Phospho-c-Jun (Ser63) II Antibody	W, IP, IF-IC, F	H, M, R, Mk, Pg
#3270 Phospho-c-Jun (Ser73) (D47G9) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H, M, R, Mk
#9164 Phospho-c-Jun (Ser73) Antibody	W, IF-IC	H, M, R, Mk
#2994 Phospho-c-Jun (Ser243) Antibody	W, IF-IC	H, M, R, Mk
#9165 c-Jun (60A8) Rabbit mAb	W, IP, IHC-P, IHC-F, IF-IC	H, M, R, Mk
#3007 Phospho-MAPKAPK-2 (Thr334) (27B7) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, Mk
NEW #5030 MEF2C (D80C1) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M
#9127 Phospho-MEK1 (Thr286) Antibody	W, IP, IF-IC, F	H, R, Mk, (M)
#4694 MEK1/2 (L38C12) Mouse mAb	W, IHC-P, IF-IC, F	H, M, R, Mk
#3679 MSK2 (D41A4) XP™ Rabbit mAb	XP W, IP, IF-IC	H
#3729 OSR1 Antibody	W, IF-IC, F	H, Mk, B
#4511 Phospho-p38 MAPK (Thr180/Tyr182) (D3F9) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, R, Mk, Sc, (Hm, C, Z, B, Pg)
#9215 Phospho-p38 MAPK (Thr180/Tyr182) (3D7) Rabbit mAb	W, IF-IC, F	H, M, R, Mk, Dm, Pg, Sc, (Hm, Mi, Z, B)
#4631 Phospho-p38 MAPK (Thr180/Tyr182) (12F8) Rabbit mAb	W, IHC-P, IF-IC	H, M, R, Mk, Dm, (Hm, Mi, Z)
#9211 Phospho-p38 MAPK (Thr180/Tyr182) Antibody	W, IP, IF-IC, F	H, M, R, Mk, Dm, Pg, Sc, (Hm, Z, B)
#9212 p38 MAPK Antibody	W, IHC-P, IF-IC, F	H, M, R, Mk, (C)
#9228 p38α MAPK (L53F8) Mouse mAb	W, IF-IC, F	H, M, R, Mk, Sc
#4370 Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (D13.14.4E) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, R, Hm, Mk, Mi, Dm, Z, B, Dg, Pg, Sc
#4377 Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (197G2) Rabbit mAb	W, IF-IC, F	H, M, R, Mk, Mi, Dm, Z, Pg
#9101 Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) Antibody	W, IP, IF-IC, F	H, M, R, Hm, Mk, C, Mi, Dm, Z, B, Pg
#9106 Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (E10) Mouse mAb	W, IP, IF-IC, F	H, M, R, Hm, Mk, Mi, Dm, Z, B, Pg
#4695 p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb	W, IP, IHC-P, IF-IC, F	H, M, R, Hm, Mk, Mi, Dm, Z, B, Dg, Pg, Sc, (C)
#9102 p44/42 MAPK (Erk1/2) Antibody	W, IP, IHC-P, IF-IC, F	H, M, R, Hm, Mk, Mi, Z, B, Pg, Sc
#4696 p44/42 MAPK (Erk1/2) (L34F12) Mouse mAb	W, IHC-P, IF-IC, F	H, M, R, Mk, Mi, Z, Pg
#9346 Phospho-p90RSK (Thr573) Antibody	W, IF-IC	H, M, R, (Hm, C, X, Z)
#9355 RSK1/RSK2/RSK3 (32D7) Rabbit mAb	W, IP, IF-IC	H, M, R, Mk
#9255 Phospho-SAPK/JNK (Thr183/Tyr185) (G9) Mouse mAb	W, IP, IF-IC, F	H, M, R, Hm, Sc
#2281 SPAK Antibody	W, IP, IF-F	H, M, R, Mk
#3225 TAB1 Antibody	W, IF-IC, F	H, M, R, Mk

Application References:
FAM129B Antibody #5122: Chen, S. et al. (2011) FAM129B/MINERVA, a Novel Adherens Junction-associated Protein, Suppresses Apoptosis in HeLa Cells. *J. Biol. Chem.* 286, 10201–10209.

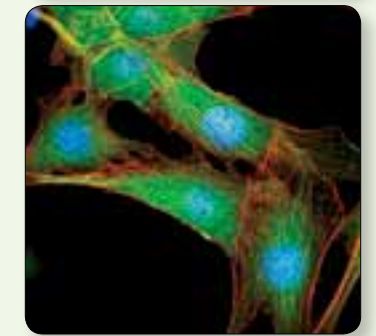
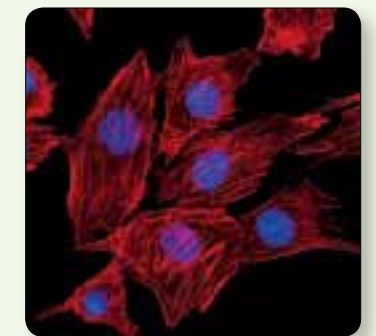
c-Fos (9F6) Rabbit mAb #2250: Le, H.Y. et al. (2008) eena promotes myeloid proliferation through stimulating ERK1/2 phosphorylation in zebrafish. *J. Biol. Chem.* 283, 17652–17661.

Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (D13.14.4E) XP™ Rabbit mAb #4370: Kippenberger, S. et al. (2010) Ligation of beta4 integrins activates PKB/Akt and ERK1/2 by distinct pathways—relevance of the keratin filament. *Biochim. Biophys. Acta* 1803, 940–950.

Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) Antibody #9101: Tsuda, M. et al. (2008) Activation of dorsal horn microglia contributes to diabetes-induced tactile allodynia via extracellular signal-regulated protein kinase signaling. *Glia* 56, 378–386.

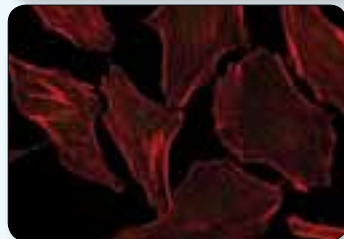
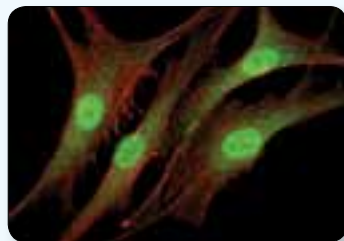


MEF2C (D80C1) XP™ Rabbit mAb #5030: Confocal IF analysis of C2C12 cells, undifferentiated (top) or differentiated for 3 days (bottom), using #5030 (green). Actin filaments were labeled with DY-554 phalloidin (red).

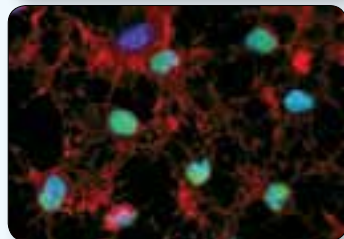
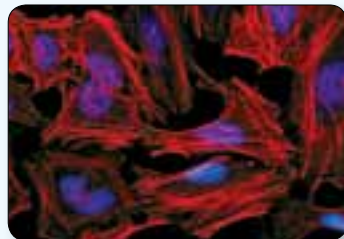


Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (D13.14.4E) XP™ Rabbit mAb #4370: Confocal IF analysis of C2C12 cells, treated with U0126 #9903 (10 μM, 1 hr, top) or TPA #4174 (200 nM, 15 min, bottom), using #4370 (green). Actin filaments were labeled with Alexa Fluor® 555 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Apoptosis and Autophagy



Livin (D61D1) XP™ Rabbit mAb #5471: Confocal IF analysis of SK-MEL-28 (top) and HeLa (bottom) cells using #5471 (green). Actin filaments were labeled with DY-554 phalloidin (red).



Cleaved-PARP (Asp214) (D64E10) XP™ Rabbit mAb #5625: Confocal IF analysis of HeLa cells, untreated (top) or treated with Staurosporine #9953 (bottom), using #5625 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Application References:

Cleaved Caspase-9 (Asp353) Antibody (Rat Specific) #9507: Sánchez-Gómez, M.V. et al. (2003) Caspase-dependent and caspase-independent oligodendrocyte death mediated by AMPA and kainate receptors. *J. Neurosci.* 23, 9519–9528.

COX IV Antibody #4844: Endo, H. et al. (2006) Mitochondrial translocation of p53 underlies the selective death of hippocampal CA1 neurons after global cerebral ischaemia. *Biochem. Soc. Trans.* 34, 1283–1286.

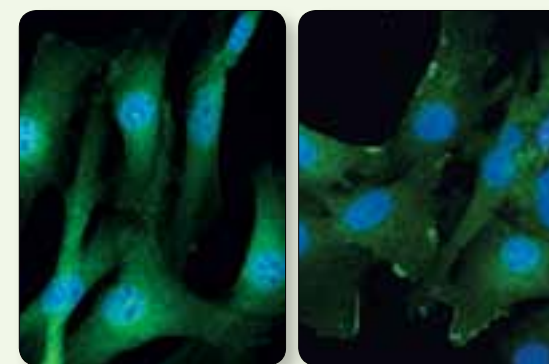
LC3B Antibody #2775: Deuretzbacher, A. et al. (2009) Beta1 integrin-dependent engulfment of Yersinia enterocolitica by macrophages is coupled to the activation of autophagy and suppressed by type III protein secretion. *J. Immunol.* 183, 5847–5860.

Cleaved PARP (Asp214) Antibody (Mouse Specific) #9544: Garnier, P. et al. (2003) Ischemic preconditioning by caspase cleavage of poly(ADP-ribose) polymerase-1. *J. Neurosci.* 23, 7967–7973.

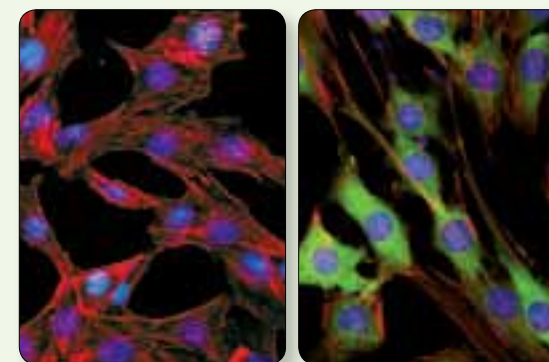
	Applications	Reactivity
#4934 Acinus Antibody	W, IF-IC	H, M, R, Mk
NEW #5318 AIF (D39D2) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk, (B, Dg)
#4642 AIF Antibody	W, IP, IHC-P, IF-IC	H, M, R
#2010 Atg12 Antibody (Human Specific)	W, IP, IF-IC	H
#2011 Atg12 Antibody (Mouse Specific)	W, IP, IF-IC	M
#2300 Aven Antibody	W, IF-IC, F	H, M, R, Mk
#2827 Phospho-Bcl-2 (Ser70) (5H2) Rabbit mAb	W, IF-IC, F	H
#2933 Bim (C34C5) Rabbit mAb	W, IP, IHC-P, IF-IC, F	H, M, R, (Mk, B, Dg)
#2819 Bim Antibody	W, IP, IF-IC, F	H, M, R, (Mk)
#9664 Cleaved Caspase-3 (Asp175) (5A1E) Rabbit mAb	W, IP, IHC-P, IHC-F, IF-IC, F	H, M, R, Mk, (Dg)
#9661 Cleaved Caspase-3 (Asp175) Antibody	W, IHC-P, IHC-F, IF-IC, F	H, M, R, Mk, (Dg, Pg)
#9669 Cleaved Caspase-3 (Asp175) Antibody (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H, M, R, Mk, B, (Pg)
#9496 Cleaved Caspase-8 (Asp391) (18C8) Rabbit mAb	W, IHC-P, IF-IC, F	H
#9509 Cleaved Caspase-9 (Asp353) Antibody (Mouse Specific)	W, IF-IC	M
#9507 Cleaved Caspase-9 (Asp353) Antibody (Rat Specific)	W, IF-IC	R
#4850 COX IV (3E11) Rabbit mAb	W, IP, IHC-P, IHC-F, IF-IC, F	H, R, Mk, Z, B, Pg
#4853 COX IV (3E11) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-F, IF-IC, F	H, R, Mk, Z, B, Pg
#4844 COX IV Antibody	W, IP, IHC-P, IF-IC, F	H, M, R, Mk, B
#4533 Daxx (25C12) Rabbit mAb	W, IF-IC	H, M, R, (Mk, B, Dg)
#2026 Phospho-Lamin A/C (Ser22) Antibody	W, IF-IC	H, M, R
#2035 Cleaved Lamin A (Small Subunit) Antibody	W, IHC-P, IF-IC	H, M, R
#2036 Cleaved Lamin A (Small Subunit) (30H5) Mouse mAb	W, IF-IC	H, M, R
#4777 Lamin A/C (4C11) Mouse mAb	W, IP, IHC-P, IF-F, IF-IC, F	H, M, R, Mk
#5369 LAP2α (3A3) Mouse mAb	W, IF-IC	H, Mk
#4599 LC3A (D50G8) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, R, (Mk, Dg)
#4108 LC3A/B Antibody	W, IF-IC, F	H, M, R, (Mk, C, X, Z, Dg)
#3868 LC3B (D11) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, R, (Mk, B, Pg)
#2775 LC3B Antibody	W, IF-IC, F	H, M, R, (Mk, B, Pg)
NEW #5471 Livin (D61D1) XP™ Rabbit mAb	XP W, IP, IF-IC	H
#4739 Max (S20) Antibody	W, IF-IC	H, M, R, (Mk, B)
#5605 c-Myc (D84C12) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H, M, R, (Mk, Dg, Pg)
#3960 Nur77 (D63C5) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H, (Mk)
#2328 PAR-4 Antibody	W, IP, IF-IC, F	H, M, R, Mk
NEW #5625 Cleaved-PARP (Asp214) (D64E10) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H, Mk
#9541 Cleaved PARP (Asp214) Antibody (Human Specific)	W, IHC-P, IF-IC, F	H
#9544 Cleaved PARP (Asp214) Antibody (Mouse Specific)	W, IF-IC	M
#9532 PARP (46D11) Rabbit mAb	W, IP, IF-IC	H, M, R, Mk
#9535 PDCD4 (D29C6) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC	H, M, R
#3693 Perforin Antibody (Mouse Specific)	W, IF-IC, F	M
#2954 Smac/Diablo Mouse mAb	W, IP, IHC-P, IF-IC	H, Mk
#2808 Survivin (71G4B7) Rabbit mAb	W, IP, IHC-P, IHC-F, IF-IC, F	H, M, R
#2810 Survivin (71G4B7) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H, M, R
NEW #4580 Survivin (71G4B7) Rabbit mAb (Alexa Fluor® 555 Conjugate)	AF IF-IC	H, M, R
#3219 TRAIL (C92B9) Rabbit mAb	W, IP, IHC-P, IF-IC, F	H

PI3K/Akt Signaling

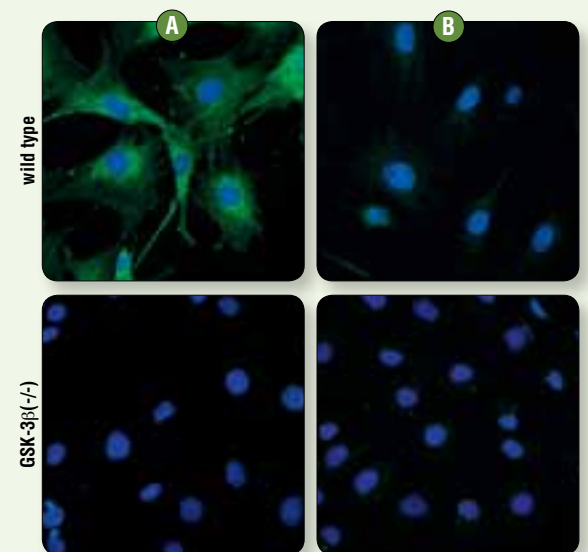
	Applications	Reactivity
#2965 Phospho-Akt (Thr308) (C31E5E) Rabbit mAb	W, IF-IC, F	H, M, R, Hm, Mk
#4060 Phospho-Akt (Ser473) (D9E) XP™ Rabbit mAb	XP W, IP, IHC-P, IHC-F, IF-IC, F	H, M, R, Hm, Mk, Dm, Z, B, (C, X, Dg, Pg)
#4058 Phospho-Akt (Ser473) (193H12) Rabbit mAb	W, IP, IF-IC, F	H, M, R
#9271 Phospho-Akt (Ser473) Antibody	W, IP, IF-IC, F	H, M, R, Hm, Dm, B, Dg, Pg, (Mk, C, X)
#4685 Akt (pan) (11E7) Rabbit mAb	W, IP, IHC-P, IF-IC, F	H, M, R, Mk
#4691 Akt (pan) (C67E7) Rabbit mAb	W, IP, IHC-P, IF-IC, F	H, M, R, Mk, Dm
NEW #5084 Akt (pan) (C67E7) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H, M, R, Mk, Dm
#2920 Akt (pan) (40D4) Mouse mAb	W, IP, IHC-P, IF-IC, F	H, M, R, Mk
#9272 Akt Antibody	W, IP, IF-IC, F	H, M, R, Hm, Mk, C, Dm, B, Pg, (Dg)
#2966 Akt (5G3) Mouse mAb	IP, IF-IC, F	H, M, R, Hm
#2880 FoxO1 (C29H4) Rabbit mAb	W, IHC-P, IF-IC	H, M, R, Mk
#2497 FoxO3a (75D8) Rabbit mAb	W, IF-IC	H, M, R, Mk
#4818 GSK-3α (D80D1) XP™ Rabbit mAb	XP IF-IC, F	H, M, (R)
NEW #5558 Phospho-GSK-3β (Ser9) (D85E12) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H, M, R, Hm
#9323 Phospho-GSK-3β (Ser9) (5B3) Rabbit mAb	W, IHC-P, IF-IC	H, M, R, Mk
NEW #5482 Phospho-NDRG1 (Thr346) (D98G11) XP™ Rabbit mAb	XP W, IHC-P, IF-IC, F	H, M, R, Mk
#2727 SHIP1 (C40G9) Rabbit mAb	W, IP, IF-IC, F	H
#2726 SHIP1 (P290) Antibody	W, IP, IF-IC, F	H
#2839 SHIP2 (C76A7) Rabbit mAb	W, IP, IF-IC, F	H
#4308 Tuberin/TSC2 (D93F12) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Hm, Mk
#4202 YB1 (D299) Antibody	W, IHC-P, IF-IC	H, M, R, Mk, (X, B)



Akt (pan) (C67E7) Rabbit mAb (Alexa Fluor® 488 Conjugate) #5084: Confocal IF analysis of C2C12 cells, treated with LY294002 #9901 (left) or insulin (right), using #5084 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Phospho-NDRG1 (Thr346) (D98G11) XP™ Rabbit mAb #5482: Confocal IF analysis of C2C12 cells, treated with LY294002 #9901 (left) or insulin (right), using #5482 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

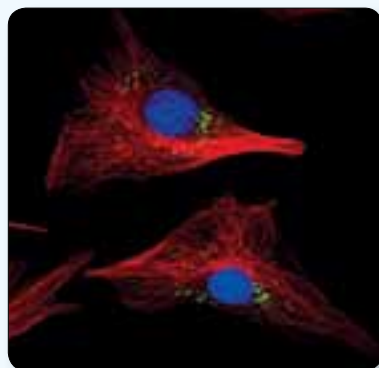


Phospho-GSK-3β (Ser9) (D85E12) XP™ Rabbit mAb #5558: Confocal IF analysis of wild type mouse embryonic fibroblasts (MEFs) (top) and GSK-3β (-/-) MEFs (bottom), untreated (A), or treated with LY294002 #9901 and Wortmannin #9951 (B), using #5558 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye). (MEF wild type and GSK-3β (-/-) cells were kindly provided by Dr. Jim Woodgett, University of Toronto, Canada).

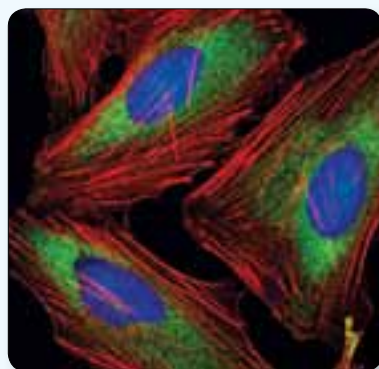
Application References:

Phospho-Akt (Ser473) Antibody #9271: Hoshino, Y. et al. (2004) Phosphatidylinositol 3-kinase and Akt participate in the FSH-induced meiotic maturation of mouse oocytes. *Mol. Reprod. Dev.* 69, 77–86.

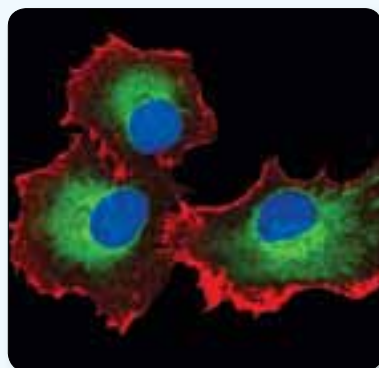
Translational Control



DDX6/RCK Antibody #9407: Confocal IF analysis of UV-treated C2C12 cells using #9407 (green) and α -Tubulin (DM1A) Mouse mAb #3873 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



eIF4G2/p97 (D88B6) XP™ Rabbit mAb #5169: Confocal IF analysis of HeLa cells using #5169 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

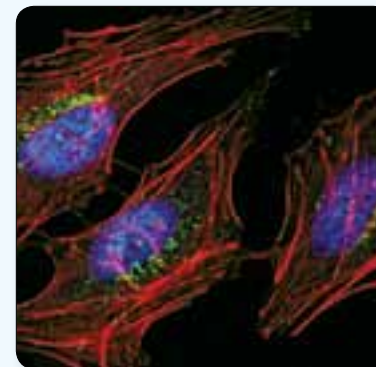


ERp72 (D70D12) XP™ Rabbit mAb #5033: Confocal IF analysis of PANC-1 cells using #5033 (green) and β -Actin (8H10D10) Mouse mAb #3700 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

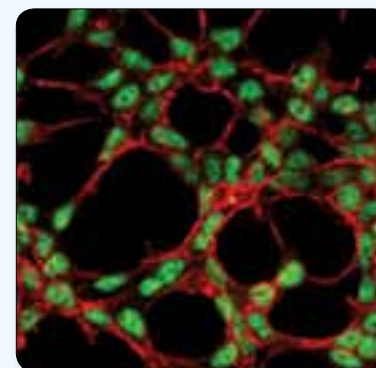
Application References:

eEF2 Antibody #2332: Kimball, S.R. et al. (2003) Mammalian stress granules represent sites of accumulation of stalled translation initiation complexes. *Am. J. Physiol. Cell Physiol.* 284, 273–284.

		Applications	Reactivity
#2855	Phospho-4E-BP1 (Thr37/46) (236B4) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, Mk, Dm
#9644	4E-BP1 (53H11) Rabbit mAb	W, IP, IHC-P, IF-IC, F	H, M, R, Mk
#2119	BRF1/2 Antibody	W, IF-IC, F	H, M, R, Mk, (C, B)
#2679	Calnexin (C5C9) Rabbit mAb	W, IHC-P, IF-IC	H, Mk
#2433	Calnexin Antibody	W, IHC-P, IF-IC	H
#2891	Calreticulin Antibody	W, IF-IC	H, M, R, Mk
#3256	CLK3 Antibody	W, IF-IC	H, M, R, Mk
#4387	DDX5 Antibody	W, IF-IC	H, M, R, Mk
NEW #9407	DDX6/RCK Antibody	W, IF-IC, F	H, M, R, Mk
NEW #2548	EDC4/Ge-1 Antibody	W, IP, IF-IC	H, M, Mk
#2551	eEF1A Antibody	W, IF-IC	H, M, R, Mk
#2332	eEF2 Antibody	W, IF-IC	H, M, R, Mk, Dm, (Hm, C)
#3692	eEF2k Antibody	W, IP, IF-IC	H, R, Mk
#3411	eIF3A (D51F4) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC	H, M, R, Mk
#2538	eIF3A Antibody	W, IP, IF-IC	H, M, R, Mk
#3413	eIF3H (D9C1) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC	H, M, R, Mk
#2490	eIF4A1 Antibody	W, IF-IC	H, M, R, Mk
NEW #5399	Phospho-eIF4B (Ser406) Antibody	W, IP, IF-IC	H, M, (R)
#2441	Phospho-eIF4G (Ser1108) Antibody	W, IP, IF-IC	H, M, R, Hm, Mk, B
#2469	eIF4G (C45A4) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, Mk
#2498	eIF4G Antibody	W, IHC-P, IF-IC, F	H, M, R, Mk
#2858	eIF4G1 Antibody	W, IHC-P, IF-IC	H, M, R
NEW #5169	eIF4G2/p97 (D88B6) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H, M, R, Mk
#3469	eIF4H (D85F2) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
#2444	eIF4H Antibody	W, IF-IC	H, M, R, Mk
#3833	eIF6 (D16E9) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
#3263	eIF6 Antibody	W, IP, IHC-P, IF-IC	H, M, R
NEW #5033	ERp72 (D70D12) XP™ Rabbit mAb	XP W, IF-IC, F	H, M, R, Mk
#3593	Grp75 (D13H4) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC	H, M, Mk
#2816	Grp75 Antibody	W, IF-IC	H, M, R, Mk
#4046	hnRNP A0 Antibody	W, IP, IF-IC	H, M, R, Mk
#4296	hnRNP A1 (K350) Antibody	W, IP, IF-IC	H, M, R, Mk
#5380	hnRNP A1 (R196) Antibody	W, IP, IF-IC	H, M, R, Mk
NEW #4675	hnRNP K (R332) Antibody	W, IP, IF-IC, F	H, M, R, Mk
#3434	Hydroxy-HIF-1 α (Pro564) (D43B5) XP™ Rabbit mAb	XP W, IP, IF-IC	H, (M, R, Mk, C, X, Z, Pg)
#3414	HIF-1 β /ARNT (C15A11) Rabbit mAb	W, IP, IF-IC	H, Mk
#3718	HIF-1 β /ARNT Antibody	W, IF-IC	H, M, R, Mk
NEW #5681	IWS1 Antibody	W, IP, IF-IC	H, M, R
#2066	MRPL11 (D68F2) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC	H, M, R, Mk
NEW #5536	Phospho-mTOR (Ser2448) (D9C2) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, (R)
#3505	Asymmetric-Methyl-PABP1 (Arg455/Arg460) (C60A10) Rabbit mAb	W, IP, IHC-P, IF-IC	H, M, R, Mk, (C)
#3501	PDI (C81H6) Rabbit mAb	W, IP, IHC-P, IF-IC	H, M, R, Mk
#2446	PDI Antibody	W, IHC-P, IF-IC	H, M, R, Mk
#3072	PKR Antibody	W, IP, IF-IC	H
NEW #9480	RagC (D8H5) Rabbit mAb	W, IP, IF-IC, F	H, M, R, Mk
#3360	RagC Antibody	W, IP, IF-IC	H, M, R, Mk
NEW #6960	RCAS1 Antibody	W, IP, IF-IC, F	H, M, R, Mk
#2415	Ribosomal Protein L7a (E109) Antibody	W, IF-IC	H, M, R, Mk
#2403	Ribosomal Protein L7a (R225) Antibody	W, IF-IC	H, M, R, Mk



RagC (D8H5) Rabbit mAb #9480: Confocal IF analysis of HeLa cells using #9480 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

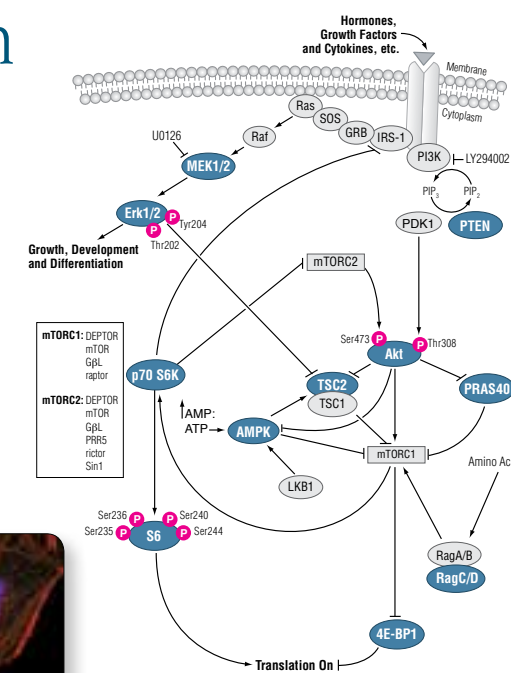
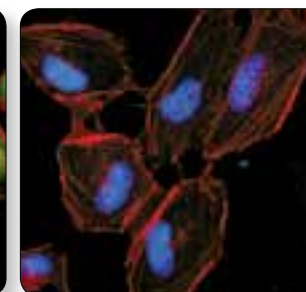
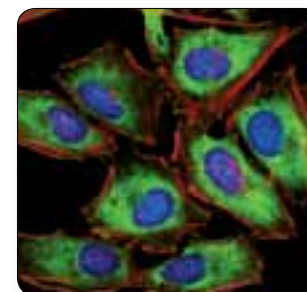


SKAR α/β (D65E8) XP™ Rabbit mAb #5439: Confocal IF analysis of 293 cells using #5439 (green). Actin filaments were labeled with DY-554 phalloidin (red).

		Applications	Reactivity
NEW #9538	Ribosomal Protein S3 (D50G7) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
#2579	Ribosomal Protein S3 Antibody	W, IF-IC	H, M, R, Mk
#4858	Phospho-S6 Ribosomal Protein (Ser235/236) (D57.2.2E) XP™ Rabbit mAb	XP W, IHC-P, IHC-F, IF-IC, F	H, M, R, Mk, Sc
#4803	Phospho-S6 Ribosomal Protein (Ser235/236) (D57.2.2E) XP™ Rabbit mAb (Alexa Fluor® 488 Conjugate)	XP AF IF-IC, F	H, M, R, Mk, Sc
#3985	Phospho-S6 Ribosomal Protein (Ser235/236) (D57.2.2E) XP™ Rabbit mAb (Alexa Fluor® 555 Conjugate)	XP AF IF-IC	H, M, R, Mk, Sc
#4851	Phospho-S6 Ribosomal Protein (Ser235/236) (D57.2.2E) XP™ Rabbit mAb (Alexa Fluor® 647 Conjugate)	XP AF IF-IC, IF-P, F	H, M, R, Mk, Sc
#4856	Phospho-S6 Ribosomal Protein (Ser235/236) (2F9) Rabbit mAb	W, IF-IC, F	H, M, R
#4854	Phospho-S6 Ribosomal Protein (Ser235/236) (2F9) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-F, IF-IC, F	H, M, R
#4857	Phospho-S6 Ribosomal Protein (Ser235/236) (91B2) Rabbit mAb	W, IHC-P, IHC-F, IF-IC	H, M, R
#2211	Phospho-S6 Ribosomal Protein (Ser235/236) Antibody	W, IP, IHC-P, IHC-F, IF-IC, F	H, M, R, Mk, Sc, (C, X)
NEW #5364	Phospho-S6 Ribosomal Protein (Ser240/244) (D68F8) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, R, Mk
NEW #5018	Phospho-S6 Ribosomal Protein (Ser240/244) (D68F8) XP™ Rabbit mAb (Alexa Fluor® 488 Conjugate)	XP AF IF-IC, F	H, M, R, Mk
#2217	S6 Ribosomal Protein (5G10) Rabbit mAb	W, IHC-P, IF-IC	H, M, R, Mk
#2317	S6 Ribosomal Protein (54D2) Mouse mAb	W, IP, IHC-P, IF-IC, F	H, M, R, Mk, Dm
NEW #5317	S6 Ribosomal Protein (54D2) Mouse mAb (Alexa Fluor® 488 Conjugate)	AF IF-F, IF-IC, F	H, M, R, Mk, Dm
NEW #5548	S6 Ribosomal Protein (54D2) Mouse mAb (Alexa Fluor® 647 Conjugate)	AF IF-F, IF-IC, F	H, M, R, Mk, Dm
NEW #5439	SKAR α/β (D65E8) XP™ Rabbit mAb	XP W, IF-IC	H, M, R, Mk
NEW #5137	TIAR Antibody	W, IP, IF-IC	H, M, R, Mk

S6 Ribosomal Protein

One way growth factors and mitogens effectively promote sustained cell growth and proliferation is by upregulating mRNA translation. Growth factors and mitogens induce the activation of p70 S6 kinase and the subsequent phosphorylation of the S6 ribosomal protein. Phosphorylation of S6 ribosomal protein correlates with an increase in translation of mRNA transcripts that contain an oligopyrimidine tract in their 5' untranslated regions. These particular mRNA transcripts (5'TOP) encode proteins involved in cell cycle progression as well as ribosomal proteins and elongation factors necessary for translation. Phosphorylation sites important for the regulation of S6 ribosomal protein include several residues (Ser235, Ser236, Ser240, and Ser244) located within a small, carboxy-terminal region of the S6 protein.

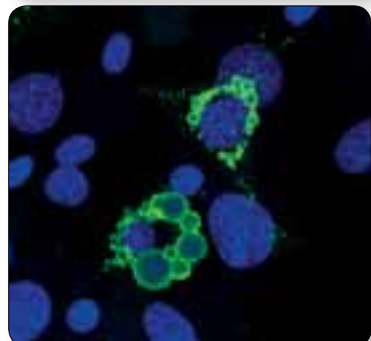
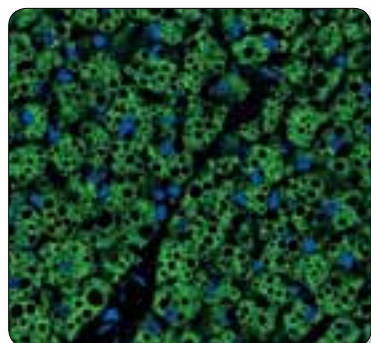


Phospho-S6 Ribosomal Protein (Ser240/244) (D68F8) XP™ Rabbit mAb #5364: Confocal IF analysis of HeLa cells, insulin-treated (left) or treated with LY294002 #9901 (right), using #5364 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Glucose and Energy Metabolism

Perilipin

Triacylglycerol is stored in lipid droplets as a primary energy reserve. Perilipin is localized at the periphery of lipid droplets and serves as a protective coating against lipases. Evidence suggests that PKA regulates lipolysis by phosphorylating perilipin. Phosphorylation of perilipin results in the conformational change that exposes lipid droplets to endogenous lipases, such as hormone-sensitive lipases. Hence, perilipin plays a pivotal role in lipid storage.



Perilipin (D1D8) XP™ Rabbit mAb #9349: Confocal IF analysis of frozen mouse brown adipose tissue (top) and 3T3-L1 adipocytes cells (bottom), using #9349 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

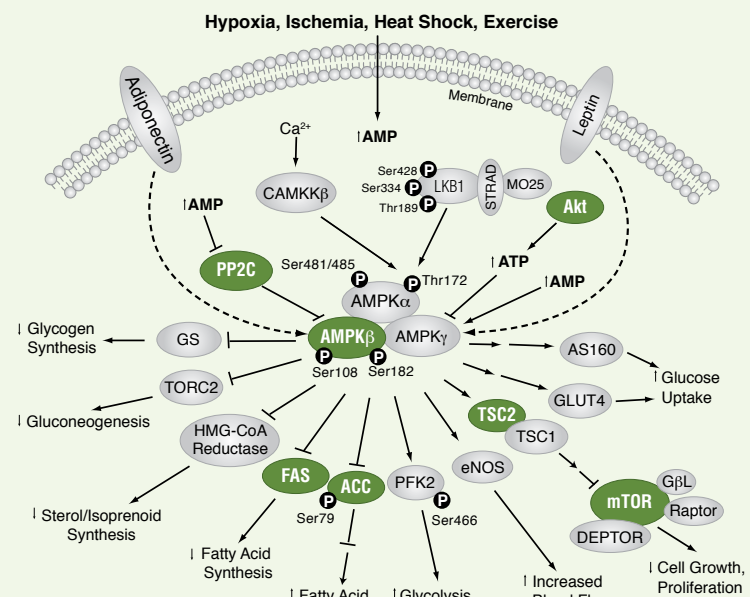
Application References:

C/EBPα Antibody #2295: Loo, L.H. et al. (2009) Heterogeneity in the physiological states and pharmacological responses of differentiating 3T3-L1 preadipocytes. *J. Cell Biol.* 187, 375–384.

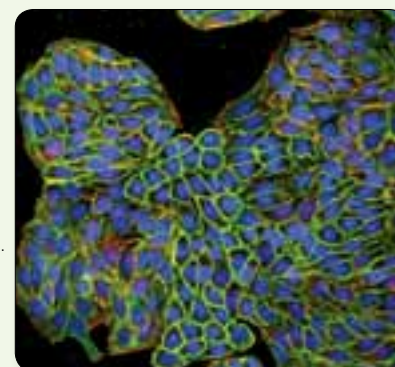
Phospho-HSL (Ser565) Antibody #4137: Loo, L.H. et al. (2009) Heterogeneity in the physiological states and pharmacological responses of differentiating 3T3-L1 preadipocytes. *J. Cell Biol.* 187, 375–384.

HSL Antibody #4107: Loo, L.H. et al. (2009) Heterogeneity in the physiological states and pharmacological responses of differentiating 3T3-L1 preadipocytes. *J. Cell Biol.* 187, 375–384.

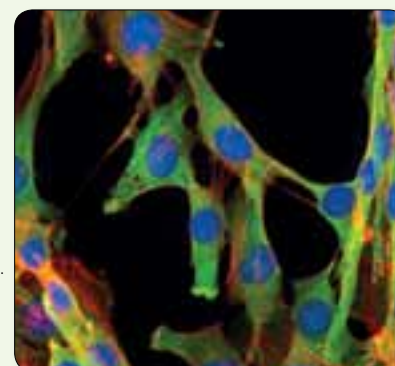
	Applications	Reactivity
#3676 Acetyl-CoA Carboxylase (C83B10) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, Hm
#3662 Acetyl-CoA Carboxylase Antibody	W, IP, IHC-P, IF-IC, F	H, M, R, Mk, B, (C, Dm)
#4190 Acetyl-CoA Carboxylase 1 Antibody	W, IP, IF-IC	H, M, R
#3207 AMACR (2A10) Mouse mAb	W, IP, IF-IC	H, M
#4150 AMPKβ1/2 (57C12) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, Hm, Mk
NEW #5345 ASCT2 (V501) Antibody	W, IP, IF-IC, F	H, M, R
#2439 ATGL (30A4) Rabbit mAb	W, IP, IHC-P, IF-IC	M
#2138 ATGL Antibody	W, IP, IHC-P, IF-IC	M, (R)
#2295 C/EBPα Antibody	W, IF-IC	H, M, R
#2895 CHOP (L63F7) Mouse mAb	W, IP, IF-IC	H, M, R
#3544 FABP4 (D25B3) XP™ Rabbit mAb	XP W, IP, IF-IC	M, (H)
#3180 Fatty Acid Synthase (C20G5) Rabbit mAb	W, IP, IHC-P, IHC-F, IF-IC	H, M, R, (B)
#3143 FoxA2/HNF3β Antibody	W, IP, IF-IC	H, (M, R)
NEW #5174 GAPDH (D16H11) XP™ Rabbit mAb	XP W, IHC-P, IF-IC	H, M, R, Mk
#2118 GAPDH (14C10) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, Mk
#3906 GAPDH (14C10) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H, M, R, Mk
#3964 GAPDH (14C10) Rabbit mAb (Alexa Fluor® 555 Conjugate)	AF IF-IC	H, M, R, Mk
#3907 GAPDH (14C10) Rabbit mAb (Alexa Fluor® 647 Conjugate)	AF IF-IC, F	H, M, R, Mk
#5014 GAPDH (14C10) Rabbit mAb (Biotinylated)	W, IF-IC, F	H, M, R, Mk
#2760 Glucagon Antibody	IHC-P, IHC-F, IF-F	H, M, R
#2024 Hexokinase I (C35C4) Rabbit mAb	W, IP, IHC-P, IF-IC	H, M
#3689 Hexokinase I (C35C4) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H, M
#3540 Hexokinase I (C35C4) Rabbit mAb (Alexa Fluor® 647 Conjugate)	AF IF-IC, F	H, M
#2867 Hexokinase II (C64G5) Rabbit mAb	W, IHC-P, IF-IC	H, M, R, Mk
#3113 HNF4α (C11F12) Rabbit mAb	W, IHC-P, IF-IC	H
#4139 Phospho-HSL (Ser563) Antibody	W, IF-IC	M, (H, R)
#4137 Phospho-HSL (Ser565) Antibody	W, IF-IC	M, (H, R)
#4126 Phospho-HSL (Ser660) Antibody	W, IF-IC	M, R
#4107 HSL Antibody	W, IP, IF-IC	M, (H)
#3027 IGF-I Receptor β Antibody	W, IP, IHC-P, IF-IC, F	H, M, R, Mk
#3014 Insulin (C27C9) Rabbit mAb	IHC-P, IF-F, IF-IC, F	H, M, R
#4590 Insulin Antibody	IHC-P, IF-F, IF-IC, F	H, M, R
#3808 IRAP Antibody	W, IP, IF-IC	H, M, (R)
#3582 LDHA (C4B5) Rabbit mAb	W, IHC-P, IF-IC	H, Mk
NEW #5195 Lipin 1 Antibody	W, IP, IF-IC	H, M
NEW #4446 MRP2 (R260) Antibody	W, IP, IF-IC	H
NEW #5679 Pdx1 (D59H3) XP™ Rabbit mAb	XP W, IP, IF-IC	R, (H)
#2437 Pdx1 Antibody	W, IP, IF-F, IF-IC	M, R, (H)
#4593 C-Peptide Antibody	IHC-P, IHC-F, IF-F, IF-IC	H, M, R
NEW #9349 Perilipin (D1D8) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-F, IF-IC	H, M
#3470 Perilipin (D418) Antibody	W, IHC-P, IF-IC	M, (H)
#3467 Perilipin (K117) Antibody	W, IF-IC	M, (H, Pg)
#3190 PKM1/2 (C103A3) Rabbit mAb	W, IF-IC	H, M, R, Mk
#4053 PKM2 (D78A4) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC	H, M, R, Mk
#2784 Pyruvate Dehydrogenase Antibody	W, IF-IC	H, M, R, Mk
#2794 SCD1 (C12H5) Rabbit mAb	W, IP, IHC-P, IF-IC	M
#2438 SCD1 (M38) Antibody	W, IF-IC	M, (H)
#2283 SCD1 (R347) Antibody	W, IF-IC	M, (H)
NEW #5839 SDHA Antibody	W, IF-IC	H, M, R, Mk



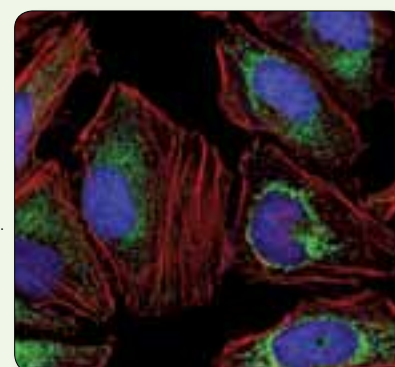
ASCT2 (V501) Antibody #5345: Confocal IF analysis of HT-29 cells using #5345 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



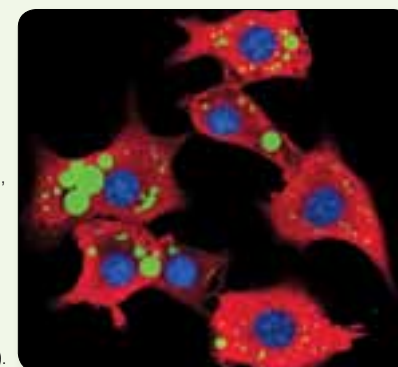
GAPDH (D16H11) XP™ Rabbit mAb #5174: Confocal IF analysis of C2C12 cells using #5174 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



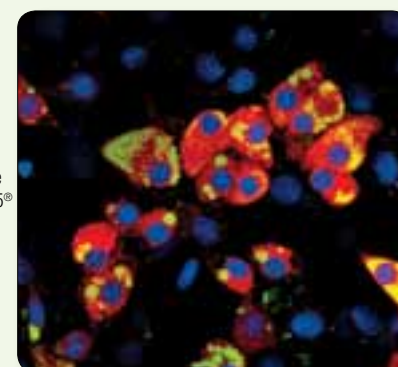
SDHA Antibody #5839: Confocal IF analysis of HeLa cells using #5839 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



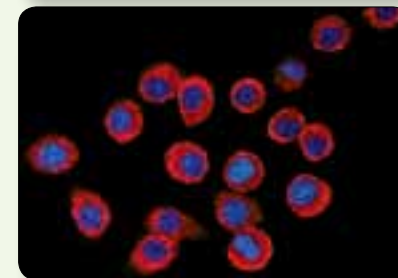
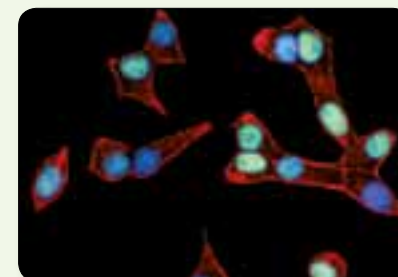
FABP4 (D25B3) XP™ Rabbit mAb #3544: Confocal IF analysis of differentiated 3T3-L1 cells (top) and undifferentiated 3T3-L1 cells (bottom), using #3544 (red). Lipid droplets have been labeled with BODIPY® 493/503 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



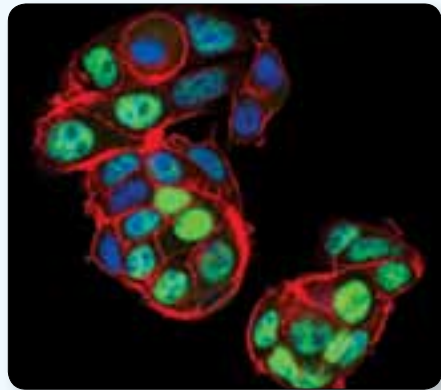
Lipin 1 Antibody #5195: Confocal IF analysis of 3T3-L1 adipocytes using #5195 (red). Lipid droplets were labeled with BODIPY® 493/503 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Pdx1 (D59H3) XP™ Rabbit mAb #5679: Confocal IF analysis of INS-1 (top) and KNRK (bottom) cells using #5679 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



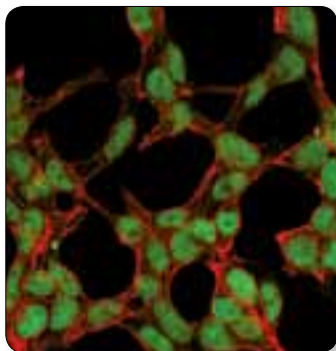
Cell Cycle, Checkpoint Control, and DNA Damage



EAPP (1E4) Mouse mAb #5166: Confocal IF analysis of MCF7 cells using #5166 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

MSH6

The DNA mismatch repair (MMR) system repairs post-replication DNA, inhibits recombination between nonidentical DNA sequences, and induces both checkpoint and apoptotic responses following certain types of DNA damage. MSH2 (MutS homologue 2) forms the hMutS- α dimer with MSH6 and is an essential component of the mismatch repair process. Mutations in MSH6 and other MMR proteins have been found in a large proportion of hereditary nonpolyposis colorectal cancer (Lynch Syndrome), the most common form of inherited colorectal cancer in the Western world. Mutations in MSH6 have been shown to occur in glioblastoma in response to temozolomide therapy and to promote temozolomide resistance.

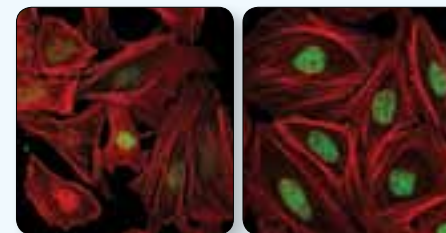


MSH6 (D60G2) XP™ Rabbit mAb #5424: Confocal IF analysis of 293 cells using #5424 (green). Actin filaments were labeled with DY-554 phalloidin (red).

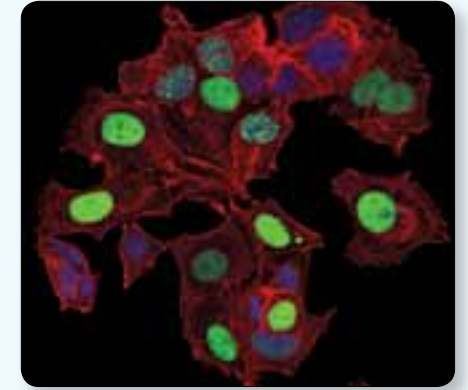
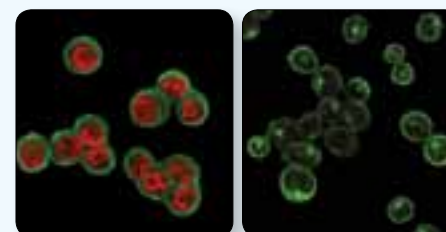
	Applications	Reactivity
#2675 Phospho-53BP1 (Ser1778) Antibody	W, IF-IC, F	H, Mk
#4937 53BP1 Antibody	W, IHC-P, IF-IC	H, Mk
#4128 Ape1 Antibody	W, IF-F, IF-IC	H, M, R, (Mk)
#2737 ATRIP Antibody	W, IP, IF-IC	H
#3079 Phospho-Aurora A (Thr288) (C39D8) Rabbit mAb	W, IF-IC	H
#2914 Phospho-Aurora A (Thr288)/Aurora B (Thr232)/Aurora C (Thr198) (D13A11) XP™ Rabbit mAb	XP W, IF-IC, F	H, M, R
#4718 Aurora A/AIK (1G4) Rabbit mAb	W, IP, IF-IC	H, Mk
#5292 BrdU (Bu20a) Mouse mAb	IHC-P, IF-IC, F	All
#4539 Phospho-cdc2 (Tyr15) (10A11) Rabbit mAb	W, IP, IF-IC, F	H, M, R, Mk
#9116 cdc2 (POH1) Mouse mAb	W, IP, IHC-P, IF-IC	H, Mk
#9527 Phospho-cdc25C (Thr48) Antibody	W, IHC-P, IF-IC	H, Mk
#2316 CDK9 (C12F7) Rabbit mAb	W, IP, IHC-P, IF-IC, F	H, M, R, Hm, Mk, B, Dg
#2661 Phospho-Chk2 (Thr68) Antibody	W, IP, IF-IC, F	H, Mk
#3440 Chk2 (1C12) Mouse mAb	W, IHC-P, IF-IC	H, Mk
#3300 Phospho-Cyclin D1 (Thr286) (D29B3) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H, (Mk)
NEW #5166 EAPP (1E4) Mouse mAb	W, IF-IC	H, M, R, Mk
NEW #5436 FoxM1 (D12D5) XP™ Rabbit mAb	XP W, IF-IC	H
#4944 HR6A/HR6B Antibody	W, IF-IC, F	H, M, R, Mk, (C, Dm, X, Z)
#2786 INCENP (A841) Antibody	W, IF-IC, F	H
#2807 INCENP (P240) Antibody	W, IF-IC, F	H
#2180 Ku80 (C48E7) Rabbit mAb	W, IP, IHC-P, IHC-F, IF-IC	H, Mk
#2753 Ku80 Antibody	W, IP, IHC-P, IF-IC, F	H, Mk, (M, R)
#9159 Phospho-LATS1 (Thr1079) Antibody	W, IF-IC	H, M, Mk, (R, C, Z, B)
#3619 MCM2 (D7G11) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, ChIP	H, M, R, Mk
#4007 MCM2 Antibody	W, IP, IHC-P, IF-IC	H, M, R, Hm, Mk
#4012 MCM3 Antibody	W, IP, IHC-P, IF-IC	H, M, R, Hm, Mk
#3735 MCM7 (D10A11) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC	H, M, R, Hm, Mk, Dg
#3515 MLH1 (4C9C7) Mouse mAb	W, IP, IF-IC, F	H, Mk
#4847 Mre11 (31H4) Rabbit mAb	W, IP, IHC-P, IHC-F, F	H
#4895 Mre11 Antibody	W, IP, IHC-P, IHC-F	H, M, R, Mk
#2017 MSH2 (D24B5) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, Mk
#2850 MSH2 (3A2) Mouse mAb	W, IP, IF-IC	H
NEW #5424 MSH6 (D60G2) XP™ Rabbit mAb	XP W, IF-IC	H, Mk
#3996 MSH6 (L990) Antibody	W, IF-IC	H, Mk
#3517 Phospho-NPM (Thr95) Antibody	W, IP, IF-IC, F	H, (M, R, Mk)
#3541 Phospho-NPM (Thr199) Antibody	W, IP, IHC-P, IF-IC	H, M, R
#3888 NuMA Antibody	W, IF-IC	H, Mk
#4736 ORC2 (3G6) Rat mAb	W, IP, IF-IC	H, Mk
#2947 p21 Waf1/Cip1 (12D1) Rabbit mAb	W, IP, IHC-P, IF-IC, F	H, Mk
NEW #5487 p21 Waf1/Cip1 (12D1) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H, Mk
#3686 p27 Kip1 (D69C12) XP™ Rabbit mAb	XP W, IP, IF-IC	H, R, Mk
#9284 Phospho-p53 (Ser15) Antibody	W, IP, IF-IC	H, M, R, Mk

	Applications	Reactivity
#3698 p27 Kip1 (SX53G8.5) Mouse mAb	W, IF-IC	H, M, R, Mk
#9284 Phospho-p53 (Ser15) Antibody	W, P, IF-IC	H, M, R, Mk
#9286 Phospho-p53 (Ser15) (16G8) Mouse mAb	W, IF-IC, F	H
#9235 Phospho-p53 (Ser15) (16G8) Mouse mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H
#9289 Phospho-p53 (Ser37) Antibody	W, IP, IF-IC, F	H, Mk
#2527 p53 (7F5) Rabbit mAb	W, IHC-P, IF-IC, F	H, Mk
NEW #5429 p53 (7F5) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, IF-P, F	H, Mk
NEW #5395 p53 (7F5) Rabbit mAb (Alexa Fluor® 555 Conjugate)	AF IF-IC	H, Mk
#2524 p53 (1C12) Mouse mAb	W, IP, IF-IC	H, M, R, Mk
#2015 p53 (1C12) Mouse mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H, M, R, Mk
#2533 p53 (1C12) Mouse mAb (Alexa Fluor® 647 Conjugate)	AF IF-IC, F	H, M, R, Mk
#2558 Phospho-p57 Kip2 (Thr310) Antibody	W, IF-IC	H
#2557 p57 Kip2 Antibody	W, IP, IF-IC	H
#4892 p63- α Antibody	W, IF-IC	H, (C)
#4665 Phospho-p73 (Tyr99) Antibody	W, IF-IC	H, (M, R, Mk)
#4662 p73 Antibody	W, IF-IC	H, (M, Mk)
#4941 Phospho-PBK/TOPK (Thr9) Antibody	W, IF-IC, F	H, M
#3258 PLK4 Antibody	W, IF-IC	H, M, R, (Mk)
#3425 Rad52 Antibody	W, IF-IC	H, M, R, Mk, (Hm)
#9309 Rb (4H1) Mouse mAb	W, IP, IHC-P, IF-IC, F, ChIP	H, Mk, B, Pg
NEW #4839 RecQL1 (Q1N3) Mouse mAb	W, IF-IC	H
#2208 RPA32 (4E4) Rat mAb	W, IP, IF-IC	H, M, R, Hm, Mk
#2267 RPA70 Antibody	W, IP, IF-IC, F	H, R, Mk
#2198 RPA70 (4D9) Rat mAb	W, IP, IF-IC	H, Mk
#4124 TIF1 β (C42G12) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, Mk
#4123 TIF1 β Antibody	W, IP, IF-IC	H, M, R, Mk
#4125 TLK1 Antibody	W, IF-IC	H, M, R
#3255 TTK Antibody	W, IP, IF-IC	H, (Mk)
#2648 VCP Antibody	W, IF-IC, F	H, M, R, Mk, (X, Z, B, Pg, Sc)
#2735 XRCC1 Antibody	W, IP, IF-IC	H

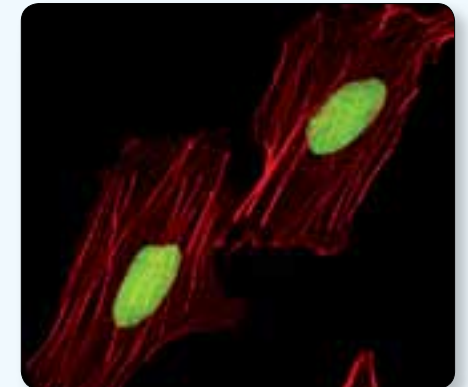
FoxM1 (D12D5) XP™ Rabbit mAb #5436: Confocal IF analysis of HeLa cells, untreated (left) or synchronized at the G1/S border by aphidicolin treatment (right), using #5436 (green). Actin filaments were labeled with DY-554 phalloidin (red).



p53 (7F5) Rabbit mAb (Alexa Fluor® 555 Conjugate) #5395: Confocal IF analysis of HT-29 (left) and THP-1 (right) cells using #5395 (red) and α -Tubulin (DM1A) Mouse mAb #3873 (green).



p21 Waf1/Cip1 (12D1) Rabbit mAb (Alexa Fluor® 488 Conjugate) #5487: Confocal IF analysis of MCF7 cells using #5487 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



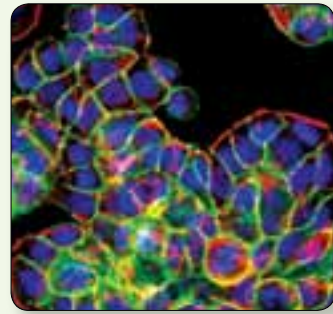
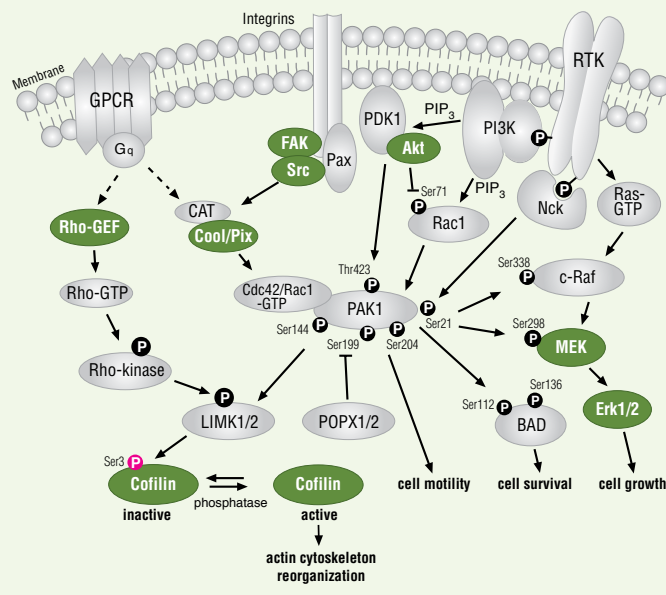
RecQL1 (Q1N3) Mouse mAb #4839: Confocal IF analysis of HeLa cells using #4839 (green). Actin filaments were labeled with DY-554 phalloidin (red).

Application References:

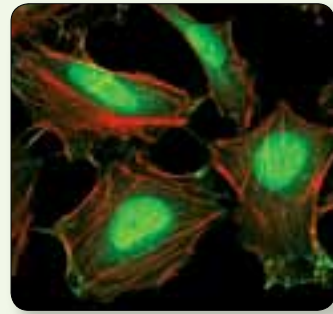
Phospho-Chk2 (Thr68) Antibody #2661: Castedo, M. et al. (2004) The cell cycle checkpoint kinase Chk2 is a negative regulator of mitotic catastrophe. *Oncogene* 23, 4353–4361. / Lukas, C. et al. (2003) Distinct spatiotemporal dynamics of mammalian checkpoint regulators induced by DNA damage. *Nat. Cell Biol.* 5, 255–260.

Phospho-p53 (Ser15) Antibody #9284: Castedo, M. et al. (2004) The cell cycle checkpoint kinase Chk2 is a negative regulator of mitotic catastrophe. *Oncogene* 23, 4353–4361. / O'Driscoll, M. et al. (2003) A splicing mutation affecting expression of ataxia-telangiectasia and Rad3-related protein (ATR) results in Seckel syndrome. *Nat. Genet.* 33, 497–501. / Castedo, M. et al. (2001) Human immunodeficiency virus 1 envelope glycoprotein complex-induced apoptosis involves mammalian target of rapamycin/FKBP12-rapamycin-associated protein-mediated p53 phosphorylation. *J. Exp. Med.* 194, 1097–1110. / Kruman, I.I. et al. (2000) Homocysteine elicits a DNA damage response in neurons that promotes apoptosis and hypersensitivity to excitotoxicity. *J. Neurosci.* 20, 6920–6926.

Cytoskeletal Regulation and Adhesion



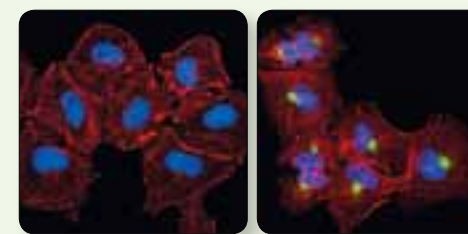
EpCAM (VU1D9) Mouse mAb (Alexa Fluor® 488 Conjugate) #5198: Confocal IF analysis of HT-29 cells using #5198 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



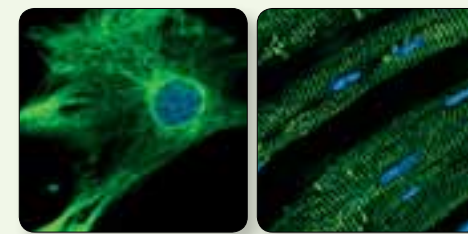
Cofilin (D3F9) XP™ Rabbit mAb #5175: Confocal IF analysis of HeLa cells using #5175 (green). Actin filaments were labeled with DY-554 phalloidin (red).

	Applications	Reactivity
#4970 β -Actin (13E5) Rabbit mAb	W, IHC-P, IHC-F, IF-IC, F	H, M, R, Mk, B, Pg, (C, Dg)
#3700 β -Actin (8H10D10) Mouse mAb	W, IHC-P, IF-IC, F	H, M, R, Hm, Mk
#3134 α -Actinin Antibody	W, IF-IC	H, M, R, Hm, Mk
NEW #5601 β IG-H3 (D31B8) XP™ Rabbit mAb	XP W, IP, IF-IC	H
#2719 β IG-H3 Antibody	W, IP, IF-IC	H, (Mk)
#3195 E-Cadherin (24E10) Rabbit mAb	W, IHC-P, IHC-F, IF-IC, F	H, M, (Dg)
#3199 E-Cadherin (24E10) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, IF-P, F	H, M, (Dg)
#4295 E-Cadherin (24E10) Rabbit mAb (Alexa Fluor® 555 Conjugate)	AF IF-IC	H, M, (Dg)
#4065 E-Cadherin Antibody	W, IP, IHC-P, IF-IC	H, M, (B, Dg)
NEW #4442 OB-Cadherin (P707) Antibody	W, IP, IF-IC	H, M, R, (Mk)
#2189 P-Cadherin (C13F9) Rabbit mAb	W, IF-IC	H, (Mk)
#2130 P-Cadherin Antibody	W, IP, IF-IC, F	H
#2500 VE-Cadherin (D87F2) XP™ Rabbit mAb	XP W, IP, IF-IC	H, Dm, B, Pg, (Mk)
#2158 VE-Cadherin Antibody	W, IF-IC	H, Dm, B
#2980 Caldesmon-1 Antibody	W, IF-IC	H, M, R, Mk
#3236 α -E-Catenin Antibody	W, IF-IC	H, M, R
#2163 α -N-Catenin (C12G4) Rabbit mAb	W, IP, IF-IC	H, M, R
#2131 α -N-Catenin Antibody	W, IP, IF-IC, F	H, M, R
#2309 γ -Catenin Antibody	W, IP, IHC-P, IF-IC	H, M, R, Hm, Mk
#2911 Phospho-Catenin δ -1 (Tyr228) Antibody	W, IF-IC	H
#3267 Caveolin-1 (D46G3) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, R, Hm, Mk, B, Dg
#3238 Caveolin-1 Antibody	W, IP, IHC-P, IHC-F, IF-IC, F	H, M, R, Hm, Z, B, Pg
#2383 CEA/CD66e (CB30) Mouse mAb	W, IHC-P, IF-IC, F	H
#4796 Clathrin Heavy Chain (D3C6) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
#2410 Clathrin Heavy Chain (P1663) Antibody	W, IF-IC	H, M, R, Mk, B
#3313 Phospho-Cofilin (Ser3) (77G2) Rabbit mAb	W, IF-IC	H, M, R, Mk, B
NEW #5175 Cofilin (D3F9) XP™ Rabbit mAb	XP W, IF-IC	H, M, R, Mk, Dg
#3512 Connexin 43 Antibody	W, IHC-P, IHC-F, IF-F, IF-IC	H, M, R, Mk, Z, (Dg, Pg)
#4573 Cool2/ α Pix (C23D2) Rabbit mAb	W, IF-IC	H, M, (R, Dg)
#3503 Cortactin (H222) Antibody	W, IP, IF-IC	H, Mk, B
#5332 Desmin (D93F5) XP™ Rabbit mAb	XP W, IF-F, IF-IC	H, M, R, (Mk)
#4024 Desmin Antibody	W, IF-F	M, R, (H, Mk)
#3455 Phospho-DRP1 (Ser16) Antibody	W, IP, IF-IC, F	H, (M, R, Mk)
#3288 EEA1 (C45B10) Rabbit mAb	W, IP, IF-IC	H, M, R
#2411 EEA1 Antibody	W, IP, IF-IC	H, M, R, Mk
#2428 EML4 Antibody	W, IP, IF-IC	H

	Applications	Reactivity
#2929 EpCAM (VU1D9) Mouse mAb	W, IHC-P, IF-IC, F	H
NEW #5198 EpCAM (VU1D9) Mouse mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H
NEW #5488 EpCAM (VU1D9) Mouse mAb (Alexa Fluor® 555 Conjugate)	AF IF-IC	H
NEW #5447 EpCAM (VU1D9) Mouse mAb (Alexa Fluor® 647 Conjugate)	AF IF-IC, F	H
#3149 Phospho-Ezrin (Thr567)/Radixin (Thr564)/Moesin (Thr558) (41A3) Rabbit mAb	W, IHC-P, IF-IC	H, M, R, Mk, Dm, B, (X, Dg)
#3145 Ezrin Antibody	W, IP, IHC-P, IF-IC, F	H, M, R, Mk, B
#2639 Fibrillarin (C13C3) Rabbit mAb	W, IF-IC	H, M, R, Mk
#3436 Flotillin-2 (C42A3) Rabbit mAb	W, IP, IF-IC	H, M, R, Mk
#4708 Integrin β 5 Antibody	W, IP, IF-IC	H
#4545 Pan-Keratin (C11) Mouse mAb	W, IHC-P, IF-IC, IF-P, F	H, R, Mk
#4523 Pan-Keratin (C11) Mouse mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, IF-P, F	H, R, Mk
#4528 Pan-Keratin (C11) Mouse mAb (Alexa Fluor® 647 Conjugate)	AF IF-IC, IF-P, F	H, R, Mk
NEW #4898 Keratin 7 (R458) Antibody	W, IF-IC	H
#4543 Keratin 17 (D73C7) XP™ Rabbit mAb	XP W, IF-IC, F	H, M, R, Mk, (Dg)
#4548 Keratin 18 (DC10) Mouse mAb	W, IHC-P, IF-IC, F	H
#3389 LPP (8B3A11) Mouse mAb	W, IP, IHC-P, IF-IC	H, M, Hm, Mk
#3150 Moesin (Q480) Antibody	W, IF-IC, F	H, M, R, B
#3403 Myosin IIa Antibody	W, IF-IC	H, M, R
#3404 Myosin IIb Antibody	W, IF-IC	H, M, Mk, (R)
#3402 Myosin Va Antibody	W, IP, IF-IC	H, M, R, (Mk, C)
#3674 Phospho-Myosin Light Chain 2 (Thr18/Ser19) Antibody	W, IF-IC	H, M, (R, C, X, Z, B, Pg)
#3671 Phospho-Myosin Light Chain 2 (Ser19) Antibody	W, IF-IC	H, M, R, Dm, (C, X, Z, B, Pg)
#3675 Phospho-Myosin Light Chain 2 (Ser19) Mouse mAb	W, IF-IC	H, M, R, B, Pg
#3924 NSF (D31C7) XP™ Rabbit mAb	XP W, IP, IF-F	H, M, R, Mk
#2145 NSF Antibody	W, IP, IF-IC	H, M, R, Hm, Mk
#3053 NTF2 (5A3) Mouse mAb	W, IF-IC	H, M, R, Mk
#2598 NUP98 (C39A3) Rabbit mAb	W, IP, IF-IC	H, M, R, Mk
#4026 α -Parvin Antibody	W, IF-IC	H, M, R, Hm, Mk, Dg
#2541 Phospho-Paxillin (Tyr118) Antibody	W, IF-IC	H, M, R, Mk
NEW #5213 PCM-1 (G2000) Antibody	W, IP, IF-IC, F	H, M, (Mk)
NEW #5259 PCM-1 (Q15) Antibody	W, IP, IF-IC, F	H, (Mk)
#2863 Plectin-1 Antibody	W, IF-IC	H, Mk
#3237 Profilin-1 Antibody	W, IF-IC, F	H, M, R, B
#3547 Rab5 (C8B1) Rabbit mAb	W, IF-IC	H, M, R, Mk
#2143 Rab5 Antibody	W, IF-IC	H, M, R, Hm, Mk
#9367 Rab7 (D95F2) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
NEW #5118 Rab9 (D52G8) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
NEW #5589 Rab11 (D4F5) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk



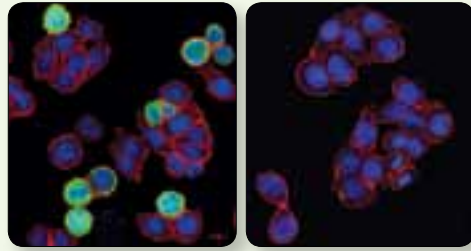
β IG-H3 (D31B8) XP™ Rabbit mAb #5601: Confocal IF analysis of A549 cells, untreated (left) or treated with hTGF- β 1 #8915 (100 ng/ml, 24 hr, right), using #5601 (green). Actin filaments were labeled with DY-554 phalloidin. Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



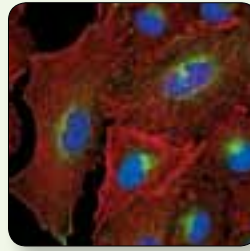
Desmin (D93F5) XP™ Rabbit mAb #5332: Confocal IF analysis of C2C12 cells (left) and mouse heart tissue (right) using #5332 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Application References:
Connexin 43 Antibody #3512: Zhang, Q. et al. (2006) Descending vasa recta endothelium is an electrical syncytium. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 291, R1688–1699.
Ezrin Antibody #3145: Canals, D. et al. (2010) Differential effects of ceramide and sphingosine 1-phosphate on ERM phosphorylation: probing sphingolipid signaling at the outer plasma membrane. *J. Biol. Chem.* 285, 32476–32485.
Phospho-Myosin Light Chain 2 (Thr18/Ser19) Antibody #3674: Ponsaerts, R. et al. (2008) The myosin II ATPase inhibitor blebbistatin prevents thrombin-induced inhibition of intercellular calcium wave propagation in corneal endothelial cells. *Invest. Ophthalmol. Vis. Sci.* 49, 4816–4827. / Bhadriaraju, K. et al. (2007) Quantifying myosin light chain phosphorylation in single adherent cells with automated fluorescence microscopy. *BMC Cell Biol.* 8, 43. / Birukova, A.A. et al. (2004) Microtubule Disassembly Induces Cytoskeletal Remodeling and Lung Vascular Barrier Dysfunction: Role of Rho-Dependent Mechanisms. *J. Cellular Phys.* 201, 55–70.
Phospho-Myosin Light Chain 2 (Ser19) Antibody #3671: Kamijo, K. et al. (2006) Dissecting the role of Rho-mediated signaling in contractile ring formation. *Mol. Biol. Cell* 17, 43–55. / John, G.R. et al. (2004) Interleukin-1 β Induces a Reactive Astroglial Phenotype via Deactivation of the Rho GTPase-Rock Axis. *J. Neurosci.* 24, 2837–2845.
Phospho-Myosin Light Chain 2 (Ser19) Mouse mAb #3675: Totsukawa, F. et al. (2000) Distinct roles of ROCK (Rho-kinase) and MLCK in spatial regulation of MLC phosphorylation for assembly of stress fibers and focal adhesions in 3T3 fibroblasts. *J. Cell Biol.* 150, 797–806. / Sakurada, K. et al. (1998) Dynamics of myosin light chain phosphorylation at Ser19 and Thr18/Ser19 in smooth muscle cells in culture. *Am. J. Physiol.* 274, 1563–1572.
 β -Tubulin (9F3) Rabbit mAb #2128: Guo, A. et al. (2008) Signaling networks assembled by oncogenic EGFR and c-Met. *Proc. Natl. Acad. Sci. USA* 105, 692–697.

Cytoskeletal Regulation and Adhesion, cont.



Phospho-Stathmin (Ser38) (D19H10) Rabbit mAb #4191: Confocal IF analysis of HT-29 cells, untreated (left) or λ phosphatase-treated (right), using #4191 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



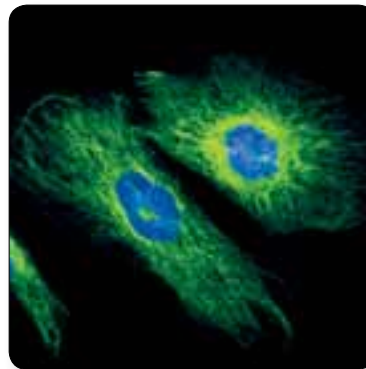
Rab11 (D4F5) XP™ Rabbit mAb #5589: Confocal IF analysis of A549 cells using #5589 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

	Applications	Reactivity
#4314 Rab25 Antibody	W, IP, IF-IC	H
NEW #5134 RCC1 (D15H6) Rabbit mAb	W, IF-IC	H, M, R, Mk
#3589 RCC1 Antibody	W, IF-IC	H, M, R, Mk
#5104 RCC2 (D14F3) Rabbit mAb	W, IF-IC	H, M, R, Mk
#3667 RCC2 Antibody	W, IF-IC	H, M, R, Mk
#2564 RhoGDI Antibody	W, IF-IC, F	H, M, R, B
#3669 p115 RhoGEF (D25D2) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
NEW #4191 Phospho-Stathmin (Ser38) (D19H10) Rabbit mAb	W, IP, IHC-P, IF-IC	H, Mk
#2869 Syntaxin 6 (C34B2) Rabbit mAb	W, IP, IF-IC	H, M, R, Mk
#5335 Acetyl- α -Tubulin (Lys40) (D20G3) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk, Z
#2125 α -Tubulin (11H10) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, Mk, Dm, B, (Dg)
NEW #5063 α -Tubulin (11H10) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H, M, R, Mk, Dm, B, (Dg)
NEW #5059 α -Tubulin (11H10) Rabbit mAb (Alexa Fluor® 555 Conjugate)	AF IF-IC	H, M, R, Mk, Dm, B, (Dg)
NEW #5046 α -Tubulin (11H10) Rabbit mAb (Alexa Fluor® 647 Conjugate)	AF IF-IC, F	H, M, R, Mk, Dm, B, (Dg)
#2144 α -Tubulin Antibody	W, IHC-P, IF-IC, F	H, M, R, Mk, Dm, B, (X)
#3873 α -Tubulin (DM1A) Mouse mAb	W, IP, IHC-P, IF-IC	H, M, R, Mk
#2148 α/β -Tubulin Antibody	W, IHC-P, IF-IC, F	H, M, R, Mk, Z, B
#2128 β -Tubulin (9F3) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, Mk, Z, B, (C)
#3623 β -Tubulin (9F3) Rabbit mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	H, M, R, Mk, Dm, Z, B, (C)
#2116 β -Tubulin (9F3) Rabbit mAb (Alexa Fluor® 555 Conjugate)	AF IF-IC	H, M, R, Mk, Dm, Z, B, (C)
#3624 β -Tubulin (9F3) Rabbit mAb (Alexa Fluor® 647 Conjugate)	AF IF-IC, F	H, M, R, Mk, Dm, Z, B, (C)
#2146 β -Tubulin Antibody	W, IHC-P, IF-IC, F	H, M, R, Mk, Z, B, (X)
#3132 VASP (9A2) Rabbit mAb	W, IP, IF-IC	H, M, R, Hm, Mk, B
#2369 Villin-1 (R814) Antibody	W, IF-IC	H, M, (R)
NEW #3877 Phospho-Vimentin (Ser56) Antibody	W, IF-IC	H, M, R, Mk
NEW #5741 Vimentin (D21H3) XP™ Rabbit mAb	XP W, IHC-P, IF-IC, F	H, M, R, Mk
NEW #3932 Vimentin (R28) Antibody	W, IF-IC	H, M, R, Mk
#3659 WAVE-2 (D2C8) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
#2847 ZO-2 Antibody	W, IF-IC	H, M, R, Mk, B, Dg
#3704 ZO-3 (D57G7) XP™ Rabbit mAb	XP W, IF-IC	H

Vimentin

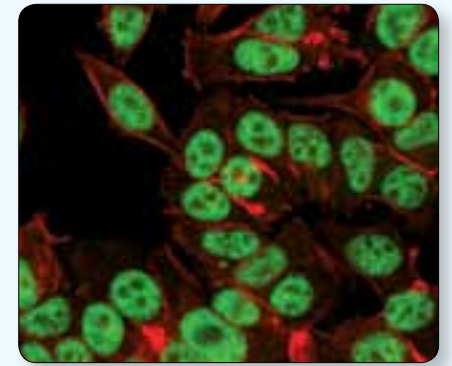
Vimentin, expressed in cells of mesenchymal origin, together with GFAP form intermediate filaments in astroglial cells and modulate their motility and shape. In particular, vimentin filaments are present at early developmental stages, while GFAP filaments are characteristic of differentiated and mature brain astrocytes. Vimentin is present in sarcomas, but not carcinomas, and its expression is examined in conjunction with that of other markers to distinguish between the two. The dynamic structural changes and spatial re-organization of vimentin in response to extracellular stimuli helps to coordinate various signaling pathways.

Vimentin (D21H3) XP™ Rabbit mAb #5741: Confocal IF analysis of SNB19 cells using #5741 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

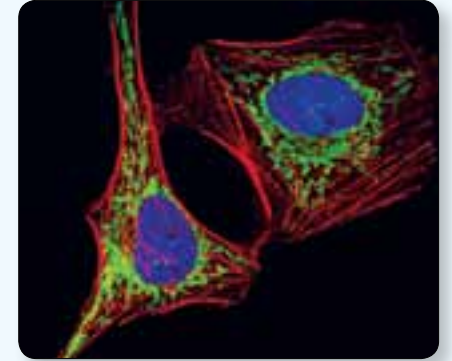


Protein Folding and Stability

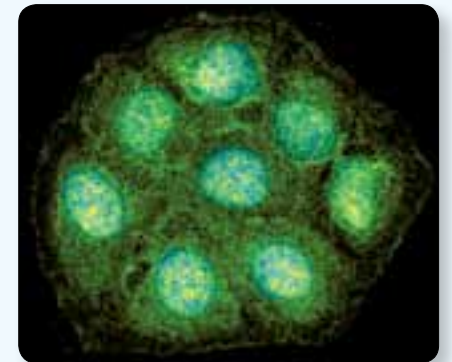
	Applications	Reactivity
NEW #4793 CDC37 (D11A3) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
NEW #6895 COPS5 Antibody	W, IP, IF-IC	H, M, R, Mk, (X, Z, B, Dg, Pg)
NEW #4833 HAUSP (D17C6) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
#4356 HSF1 Antibody	W, IP, IHC-P, IF-IC, F, ChIP	H, M, R, Mk
#2401 Phospho-HSP27 (Ser82) Antibody	W, IHC-P, IHC-F, IF-IC	H, M, R, Mk
#2406 Phospho-HSP27 (Ser82) Antibody II	W, IHC-P, IHC-F, IF-IC, F	H, M, R, Mk
#2442 HSP27 Antibody (Rodent Preferred)	W, IF-IC, F	M, R
#2402 HSP27 (G31) Mouse mAb	W, IHC-P, IF-IC	H, Mk
#4868 HSP40 Antibody	W, IP, IF-IC, F	H, M, R, Mk
#4870 HSP60 (D307) Antibody	W, IF-IC, F	H, M, R, Mk, Dm
#4876 HSP70 (D69) Antibody	W, IHC-P, IHC-F, IF-IC, F	H, M, R, Mk
#4869 HSP60 (D85) Antibody	W, IF-IC, F	H, M, R, Mk, Dm
#4873 HSP70 (6B3) Rat mAb	W, IP, IHC-P, IF-IC, F	H, Mk
#4877 HSP90 (C45G5) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, Mk
#2740 NEDD4 Antibody	W, IF-IC, F	H, M, R, Mk
NEW #4013 NEDD4L Antibody	W, IP, IF-IC	H, M, R, Mk
#2409 PA28 β Antibody	W, IP, IF-IC	H, M, R, Mk
#2412 PA28 γ Antibody	W, IP, IHC-P, IF-IC	H, M, R, Mk
#2455 PSMA2 Antibody	W, IF-IC	H, M, R, Mk
#2457 PSMA5 (K231) Antibody	W, IF-IC	H, M, R, Mk
NEW #5591 SENP3 (D20A10) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
#2156 Skp1 Antibody	W, IF-IC, F	H, M, R
#4313 Skp2 (L70) Antibody	W, IF-IC	H, M, R, Mk
#4358 Skp2 Antibody	W, IF-IC	H, Mk
#4931 SUMO-1 (C21A7) Rabbit mAb	W, IP, IF-IC	H, M, R
#4930 SUMO-1 Antibody	W, IP, IHC-P, IF-IC	H, M, R, Mk
#4971 SUMO-2/3 (18H8) Rabbit mAb	W, IF-IC	H, R, (M)
NEW #4786 Ubc9 (D26F2) XP™ Rabbit mAb	XP W, IF-IC	H, M, R, Mk
#4890 UBE1a Antibody	W, IP, IHC-P, IF-IC, F	H, M, R
#4891 UBE1a/b Antibody	W, IF-IC	H, M, R
#3936 Ubiquitin (P4D1) Mouse mAb	W, IHC-P, IF-IC	All
NEW #5553 USP10 Antibody	W, IP, IF-IC	H, M, R, Mk
#2738 VHL Antibody	W, IF-IC	H, M, R, Mk, (B)



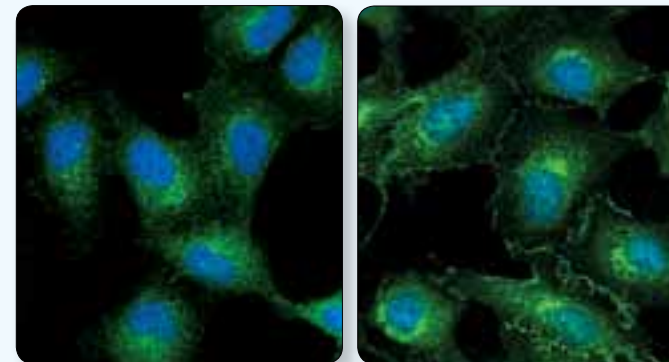
HAUSP (D17C6) XP™ Rabbit mAb #4833: Confocal IF analysis of MCF7 cells using #4833 (green). Actin filaments were labeled with DY-554 phalloidin (red).



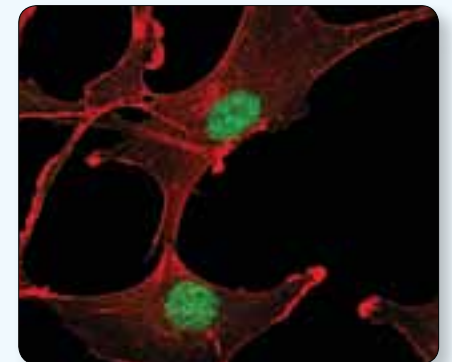
HSP60 (D307) Antibody #4870: Confocal IF analysis of HeLa cells using #4870 (green). Actin filaments were labeled with Alexa Fluor® 555 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



COPS5 Antibody #6895: Confocal IF analysis of U-2 OS cells using #6895 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



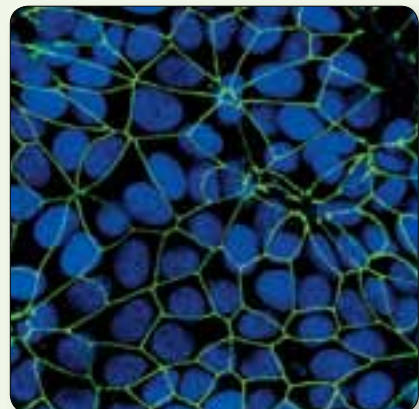
CDC37 (D11A3) XP™ Rabbit mAb #4793: Confocal IF analysis of HeLa cells, serum-starved (left) or treated with hEGF #8916 (100 ng/ml, 5 min, right), using #4793 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Ubc9 (D26F2) XP™ Rabbit mAb #4786: Confocal IF analysis of A172 cells using #4786 (green). Actin filaments were labeled with DY-554 phalloidin (red).

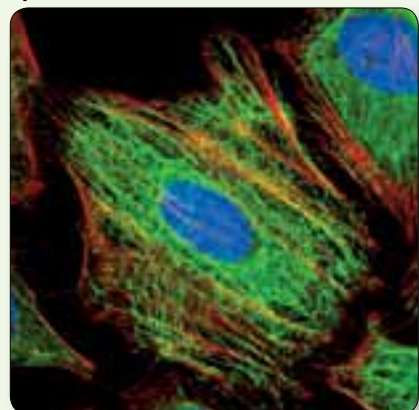
Organelle Markers

Intercellular Junctions



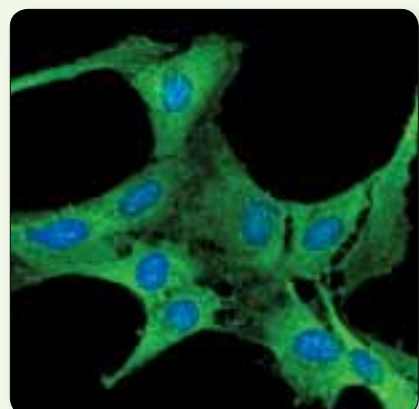
ZO-3 (D57G7) XP™ Rabbit mAb #3704: Confocal IF analysis of MCF7 cells using #3704 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Cytoskeleton



Keratin 17 (D73C7) XP™ Rabbit mAb #4543: Confocal IF analysis of HeLa cells using #4543 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Ribosomes



Ribosomal Protein S3 (D50G7) XP™ Rabbit mAb #9538: Confocal IF analysis of C6 cells using #9538 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Intercellular Junctions

	Applications	Reactivity
#3195 E-Cadherin (24E10) Rabbit mAb	W, IHC-P, IHC-F, IF-IC, F	H, M, (Dg)
#2189 P-Cadherin (C13F9) Rabbit mAb	W, IF-IC	H, (Mk)
#2500 VE-Cadherin (D87F2) XP™ Rabbit mAb	XP W, IP, IF-IC	H, Pg, B, Dm, (Mk)
#3512 Connexin 43 Antibody	W, IHC-P, IHC-F, IF-F, IF-IC	H, M, R, Mk, Z, (Dg, Pg)
#2847 ZO-2 Antibody	W, IF-IC	H, M, R, Mk, B, Dg
#3704 ZO-3 (D57G7) XP™ Rabbit mAb	XP W, IF-IC	H

Cytoskeleton

	Applications	Reactivity
#5332 Desmin (D93F5) XP™ Rabbit mAb	XP W, IF-F, IF-IC	H, M, R, (Mk)
#4545 Pan-Keratin (C11) Mouse mAb	W, IHC-P, IF-IC, IF-P, F	H, R, Mk
NEW #4898 Keratin 7 (R458) Antibody	W, IF-IC	H
#4543 Keratin 17 (D73C7) XP™ Rabbit mAb	XP W, IF-IC, F	H, M, R, Mk, (Dg)
#2125 α-Tubulin (11H10) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, Mk, Dm, B, (Dg)
#2128 β-Tubulin (9F3) Rabbit mAb	W, IHC-P, IF-IC, F	H, M, R, Mk, Z, B, (C)
NEW #5741 Vimentin (D21H3) XP™ Rabbit mAb	XP W, IHC-P, IF-IC, F	H, M, R, Mk

Cytoplasm

	Applications	Reactivity
#4694 MEK1/2 (L38C12) Mouse mAb	W, IHC-P, IF-IC, F	H, M, R, Mk

Ribosomes

	Applications	Reactivity
#2403 Ribosomal Protein L7a (R225) Antibody	W, IF-IC	H, M, R, Mk
NEW #9538 Ribosomal Protein S3 (D50G7) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
#2217 S6 Ribosomal Protein (5G10) Rabbit mAb	W, IHC-P, IF-IC	H, M, R, Mk

Endoplasmic Reticulum

	Applications	Reactivity
#2679 Calnexin (C5C9) Rabbit mAb	W, IHC-P, IF-IC	H, Mk
NEW #5033 ERp72 (D70D12) XP™ Rabbit mAb	XP W, IF-IC, F	H, M, R, Mk
#3501 PDI (C81H6) Rabbit mAb	W, IP, IHC-P, IF-IC	H, M, R, Mk

Golgi

	Applications	Reactivity
#2869 Syntaxin 6 (C34B2) Rabbit mAb	W, IP, IF-IC	H, M, R, Mk
NEW #6960 RCAS1 Antibody	W, IP, IF-IC, F	H, M, R, Mk

Mitochondria

	Applications	Reactivity
#4850 COX IV (3E11) Rabbit mAb	W, IP, IHC-P, IHC-F, IF-IC, F	H, R, Mk, Z, B, Pg
#2024 Hexokinase I (C35C4) Rabbit mAb	W, IP, IHC-P, IF-IC	H, M

Endosomes

	Applications	Reactivity
#3267 Caveolin-1 (D46G3) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, R, Hm, Mk, B, Dg
#4796 Clathrin Heavy Chain (D3C6) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
#3288 EEA1 (C45B10) Rabbit mAb	W, IP, IF-IC	H, M, R
#3547 Rab5 (C8B1) Rabbit mAb	W, IF-IC	H, M, R, Mk
#9367 Rab7 (D95F2) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk
NEW #5118 Rab9 (D52G8) XP™ Rabbit mAb	XP W, IP, IF-IC	H, M, R, Mk

Autophagosomes

	Applications	Reactivity
#2010 Atg12 Antibody (Human Specific)	W, IP, IF-IC	H
#2011 Atg12 Antibody (Mouse Specific)	W, IP, IF-IC	M
#4599 LC3A (D50G8) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, R, (Mk, Dg)
#3868 LC3B (D11) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, M, R, (Mk, B, Pg)

Knowledge of the subcellular location of a protein may reveal the potential role it plays in a variety of cellular processes. Colocalization with one of the organelle-specific antibodies listed here can confirm the subcellular location of a protein of interest. While these organelle markers serve as powerful tools for immunofluorescence, they may also be used as western blot controls for fractionated cell lysates.

Nucleus

	Applications	Reactivity
#2196 ESET (C1C12) Rabbit mAb	W, IP, IF-IC	H, Mk
#2718 Histone H2A.Z Antibody	W, IP, IF-IC	H, M, R, Mk, Z, (C, X, B)
#4499 Histone H3 (D1H2) XP™ Rabbit mAb	XP W, IHC-P, IF-IC	H, M, R, Mk, (Hm, C, B, Dm, X, Z)
#2184 LSD1 (C69G12) Rabbit mAb	W, IP, IHC-P, IHC-F, IF-IC	H, M, R, Mk

Nuclear Envelope

	Applications	Reactivity
#4777 Lamin A/C (4C11) Mouse mAb	W, IP, IHC-P, IF-F, IF-IC, F	H, M, R, Mk
#2598 NUP98 (C39A3) Rabbit mAb	W, IP, IF-IC	H, M, R, Mk

Nucleolus

	Applications	Reactivity
#2639 Fibrillarin (C13C3) Rabbit mAb	W, IF-IC	H, M, R, Mk

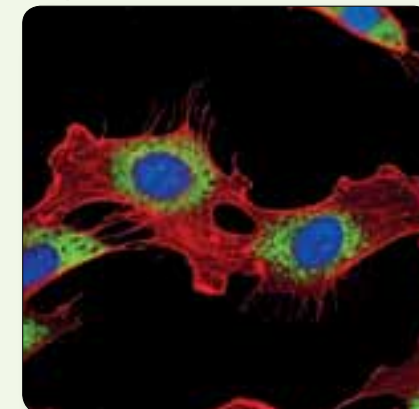
Centromeres

	Applications	Reactivity
#2186 CENP-A Antibody	W, IF-IC	H
#2048 CENP-A (C51A7) Rabbit mAb (Mouse Specific; IF Preferred)	W, IF-IC	M

Mitosis

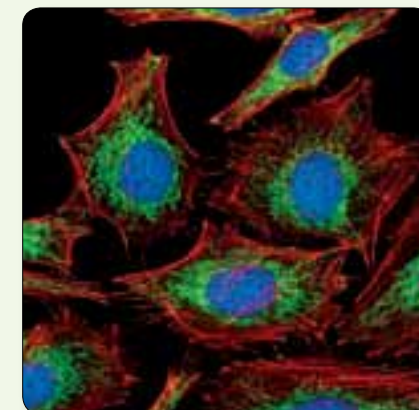
	Applications	Reactivity
#2914 Phospho-Aurora A (Thr288)/Aurora B (Thr232)/Aurora C (Thr198) (D13A11) XP™ Rabbit mAb	XP W, IF-IC, F	H, M, R
#4718 Aurora A/AIK (1G4) Rabbit mAb	W, IP, IF-IC	H, Mk
#2187 Phospho-CENP-A (Ser7) Antibody	W, IP, IF-IC	H, (Mk)
#3377 Phospho-Histone H3 (Ser10) (D2C8) XP™ Rabbit mAb	XP W, IF-F, IF-IC, F	H, M, R, Mk, Z

Endoplasmic Reticulum



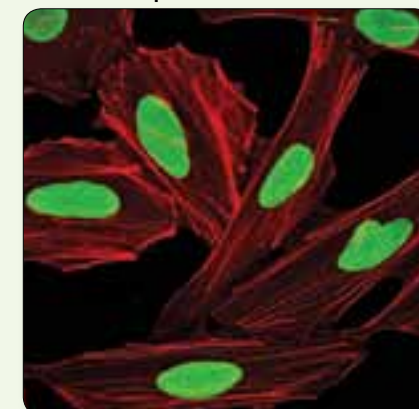
PDI (C81H6) Rabbit mAb #3501: Confocal IF analysis of NIH/3T3 cells using #3501 (green) and β-Actin (8H10D10) Mouse mAb #3700 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Mitochondria



COX IV (3E11) Rabbit mAb #4850: Confocal IF analysis of HeLa cells using #4850 (green). Actin filaments were labeled with Alexa Fluor® 555 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Nuclear Envelope



Lamin A/C (4C11) Mouse mAb #4777: Confocal IF analysis of HeLa cells using #4777 (green). Actin filaments were labeled with DY-554 phalloidin (red).

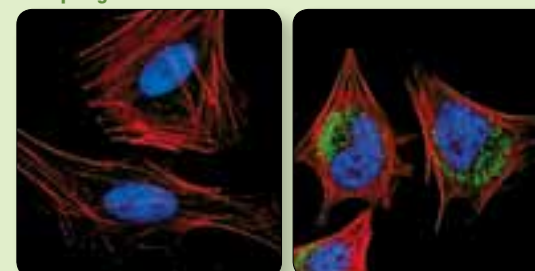
Cellular Localization IF Antibody Sampler Kit #4753

This kit offers an economical alternative to purchasing individual organelle marker antibodies. These antibodies may also be used as western blot controls for fractionated cell lysates.

Kit Components

β-Tubulin (9F3) Rabbit mAb #2128, COX IV (3E11) Rabbit mAb #4850, NUP98 (C39A3) Rabbit mAb #2598, CENP-A Ab #2186, Fibrillarin (C13C3) Rabbit mAb #2639, LC3B (D11) XP™ Rabbit mAb #3868, Rab5 (C8B1) Rabbit mAb #3547, Calnexin (C5C9) Rabbit mAb #2679, Histone H3 (D1H2) XP™ Rabbit mAb #4499

Autophagosomes



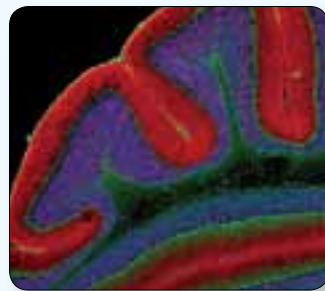
LC3B (D11) XP™ Rabbit mAb #3868: Confocal IF analysis of HeLa cells, untreated (left) or chloroquine-treated (right), using #3868 (green). Actin filaments were labeled using DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Please visit our website for more details about this kit.

Complementary Reagents and Controls for Immunofluorescence

Alexa Fluor® Conjugated Secondary Antibodies

Alexa Fluor® conjugated secondary antibodies offer improved fluorescence intensity, sensitivity, and photostability, as well as stability over a wide pH range. These secondary antibodies are conjugated to Alexa Fluor® 488, 555, or 647 under optimal conditions and are tested in-house on human and mouse cell lines and tissue samples. Both the anti-mouse and anti-rabbit secondary antibodies are made with F(ab')₂ fragments, eliminating non-specific binding through Fc receptors present on the cell.



Anti-Rabbit IgG (H+L), F(ab')₂ Fragment (Alexa Fluor® 555 Conjugate) #4413 and Anti-Mouse IgG (H+L), F(ab')₂ Fragment (Alexa Fluor® 488 Conjugate) #4408: Confocal IF analysis of mouse cerebellum using α -Synuclein Antibody (IF Preferred) #2628 detected with #4413 (red) and Neurofilament-L (DA2) Mouse mAb #2835 detected with #4408 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

- ∴ Alexa Fluor® dyes exhibit superior brightness and photostability providing you with greater sensitivity and longer image capture time.
- ∴ Alexa Fluor® conjugated secondary antibodies are F(ab')₂ fragments, which exhibit reduced background staining.
- ∴ These reagents are used in-house for antibody validation and work optimally with our primary antibodies.

#4408 Anti-mouse IgG (H+L), F(ab') ₂ Fragment (Alexa Fluor® 488 Conjugate)
#4409 Anti-mouse IgG (H+L), F(ab') ₂ Fragment (Alexa Fluor® 555 Conjugate)
#4410 Anti-mouse IgG (H+L), F(ab') ₂ Fragment (Alexa Fluor® 647 Conjugate)
#4412 Anti-rabbit IgG (H+L), F(ab') ₂ Fragment (Alexa Fluor® 488 Conjugate)
#4413 Anti-rabbit IgG (H+L), F(ab') ₂ Fragment (Alexa Fluor® 555 Conjugate)
#4414 Anti-rabbit IgG (H+L), F(ab') ₂ Fragment (Alexa Fluor® 647 Conjugate)
#4416 Anti-rat IgG (H+L), (Alexa Fluor® 488 Conjugate)
#4417 Anti-rat IgG (H+L), (Alexa Fluor® 555 Conjugate)
#4418 Anti-rat IgG (H+L), (Alexa Fluor® 647 Conjugate)

DyLight® Infrared Conjugated Secondary Antibodies

Due to their low background fluorescence, high sensitivity, photostability, and ease of quantification, DyLight® 680 or 800 near infrared fluorescent dyes are ideal for fluorescent western blotting and In-Cell Western™ (ICW) assays. Each DyLight® conjugated secondary antibody available from Cell Signaling Technology is tested in-house by fluorescent western and ICW analysis.

#5470 Anti-mouse IgG (H+L) (DyLight® 680 Conjugate)
#5257 Anti-mouse IgG (H+L) (DyLight® 800 Conjugate)
#5366 Anti-rabbit IgG (H+L) (DyLight® 680 Conjugate)
#5151 Anti-rabbit IgG (H+L) (DyLight® 800 Conjugate)

Fluorescent DNA Dyes

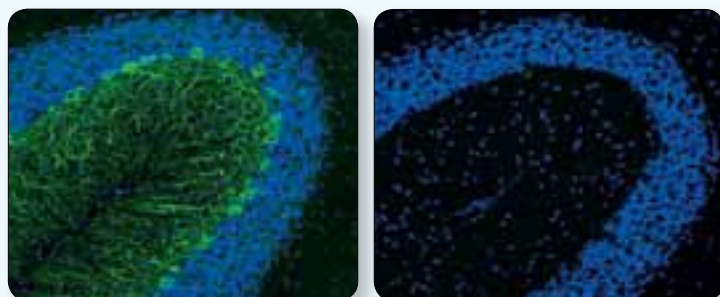
DRAQ5®, DAPI, and Hoechst cell permeable fluorescent DNA dyes can be used in live or fixed cells. Depending on their emission spectrum, these dyes can also be used in combination with UV, GFP, FITC, TRITC, far red, and infrared labels.

	Applications	Reactivity
NEW #4083 DAPI	IF-F, IF-IC, IF-P	All
#4084 DRAQ5®	IF-F, IF-IC, IF-P, F	All
#4082 Hoechst 33342	IF-F, IF-IC, IF-P	All
NEW #4087 Propidium Iodide (PI)/RNase Staining Solution	IF-F, IF-IC, IF-P, F	All

Isotype Controls

Isotype control antibodies are used to estimate the non-specific binding of primary antibodies due to Fc receptor binding or other protein-protein interactions and should have the same immunoglobulin type as the test antibody.

Mouse (G3A1) mAb IgG1 Isotype Control #5415: Confocal IF analysis of normal rat cerebellum using Neurofilament H (RMdO 20) Mouse mAb #2836 (green, left) compared to concentration matched #5415 (green, right). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



	Applications
NEW #5415 Mouse (G3A1) mAb IgG1 Isotype Control	IP, IHC-P, IF-IC, F, ChIP
#3900 Rabbit (DA1E) mAb IgG XP™ Isotype Control	XP IHC-P, IF-IC, F

Epitope Tag Antibodies

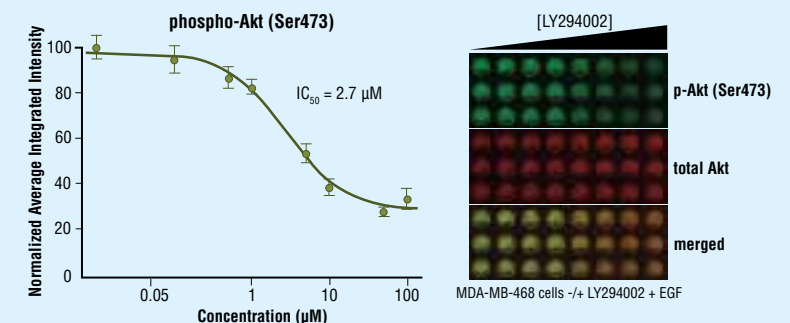
	Applications	Reactivity
#2368 DYKDDDDK Tag Antibody (Binds to same epitope as Sigma's Anti-FLAG® M2 Antibody)	AF W, IP, IHC-P, IF-IC	All
#5407 DYKDDDDK Tag Antibody (Binds to same epitope as Sigma's Anti-FLAG® M2 Antibody) (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	All
#3768 DYKDDDDK Tag Antibody (Binds to same epitope as Sigma's Anti-FLAG® M2 Antibody) (Alexa Fluor® 555 Conjugate)	AF IF-IC	All
#2956 GFP (D5.1) XP™ Rabbit mAb	XP W, IHC-P, IF-IC, F	All
#2448 Glu-Glu Tag Antibody	W, IP, IF-IC	All
#2625 GST (91G1) Rabbit mAb	W, IP, IF-IC	All
#2624 GST (26H1) Mouse mAb	W, IP, IF-IC	All
#3368 GST (26H1) Mouse mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	All
#3720 GST (26H1) Mouse mAb (Alexa Fluor® 555 Conjugate)	AF IF-IC	All
#3724 HA-Tag (C29F4) Rabbit mAb	W, IP, IHC-P, IF-IC, F	All
#2367 HA-Tag (6E2) Mouse mAb	W, IHC-P, IF-IC, F	All
#2350 HA-Tag (6E2) Mouse mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	All
#3444 HA-Tag (6E2) Mouse mAb (Alexa Fluor® 647 Conjugate)	AF IF-IC, F	All
#2365 His-Tag Antibody	W, IP, IF-IC	All
#2396 MBP (8G1) Mouse mAb	W, IP, IF-IC	All
#2278 Myc-Tag (71D10) Rabbit mAb	W, IP, IF-IC, F	All
#2272 Myc-Tag Antibody	W, IF-IC, F	All
#2276 Myc-Tag (9B11) Mouse mAb	W, IP, IHC-P, IF-IC, F	All
#2279 Myc-Tag (9B11) Mouse mAb (Alexa Fluor® 488 Conjugate)	AF IF-IC, F	All
#3756 Myc-Tag (9B11) Mouse mAb (Alexa Fluor® 555 Conjugate)	AF IF-IC	All
#2233 Myc-Tag (9B11) Mouse mAb (Alexa Fluor® 647 Conjugate)	AF IF-IC, F	All

PhosphoPlus® In-Cell Duets (ICW Compatible)

PhosphoPlus® In-Cell Duets (ICW Compatible) provide an easy means to assess protein activation status in whole cell assays using the LI-COR® Biosciences Odyssey® Infrared Imaging System. These kits contain an activation state and total protein antibody cocktail to your target of interest, allowing levels of phosphorylated protein to be independently measured and normalized to total protein concentration. These antibodies have been selected based on superior performance, and were validated to work together in a multiplex assay format. A cocktail of near infrared detection antibodies is also included.

	Reactivity
NEW #7255 PhosphoPlus® Akt (Ser473) In-Cell Duet (ICW Compatible) Kit includes cocktails to simultaneously detect levels of phospho-Akt (Ser473) and total Akt	H, M, R, Mk
NEW #7261 PhosphoPlus® Phospho-S6 Ribosomal Protein (Ser235/236) In-Cell Duet (ICW Compatible) Kit includes cocktails to simultaneously detect levels of phospho-S6 ribosomal protein (Ser235/236) and total S6 ribosomal protein	H, M, R, Mk
NEW #7257 PhosphoPlus® Phospho-p38 MAPK (Thr180/Tyr182) In-Cell Duet (ICW Compatible) Kit includes cocktails to simultaneously detect levels of phospho-p38 MAPK (Thr180/Tyr182) and total p38 MAPK	H, M, R, Mk
NEW #7263 PhosphoPlus® Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) In-Cell Duet (ICW Compatible) Kit includes cocktails to simultaneously detect levels of phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) and total p44/42 MAPK (Erk1/2)	H, M, R, Mk

PhosphoPlus® Akt (Ser473) In-Cell Duet (ICW Compatible) #7255: Analysis of MDA-MB-468 cells exposed to varying concentrations of LY294002 #9901 for 2 hours, followed by hEGF #8916 stimulation for 20 minutes. The phosphorylation status of Akt, as well as the total protein expression level, was measured simultaneously using #7255. With increasing concentrations of LY294002, a significant decrease (~3-fold) in phospho-Akt signal as compared to the hEGF-stimulated control was observed, while total Akt protein levels remained the same and were used to normalize the data. When using phospho-Akt (Ser473) as a measurement, the IC₅₀ of this compound was 2.7 μ M. Data and images were generated on the LI-COR® Biosciences Odyssey® Infrared Imaging System.



Antibodies Validated for In-Cell Western™ Assay

For information on IF-validated antibodies appropriate for ICW or assistance with your assay design, please contact ICW@cellsignal.com.

Motif and Other Antibodies

Motif Antibodies

	Applications	Reactivity
#9441 Acetylated-Lysine Antibody	W, IP, IHC-P, IF-IC, ChIP, E-P	All
#9411 Phospho-Tyrosine Mouse mAb (P-Tyr-100)	W, IP, IHC-P, IF-F, IF-IC, IF-P, F, E-P	All
#9415 Phospho-Tyrosine Mouse mAb (P-Tyr-100) (Alexa Fluor® 647 Conjugate)	AF IF-IC, F	All

Calcium, cAMP, and Lipid Signaling

	Applications	Reactivity
#2614 Pan-Calcineurin A Antibody	W, IP, IF-IC, F	H, M, R, Mk, Dm, (C, X, B, Pg)
#2891 Calreticulin Antibody	W, IF-IC	H, M, R, Mk
#5607 MARCKS (D88D11) XP™ Rabbit mAb	XP W, IHC-P, IF-IC, F	H, Mk
#4782 PKA C-α Antibody	W, IP, IF-IC, F	H, M, R
#3927 PKA RI-α/β Antibody	W, IF-IC	H, M, R
#2056 PKCα Antibody	W, IP, IF-IC, F	H, M, R, Mk, (Dg)
#4510 Phospho-PLCγ1 (Ser1248) Antibody	W, IF-IC, F	H, M, Mk
#4917 STIM2 Antibody	W, IF-IC	H, M, R, Mk
#3557 TGM2 (D11A6) XP™ Rabbit mAb	XP W, IHC-P, IF-IC	H, M, R, Mk

Phosphatases

	Applications	Reactivity
#9527 Phospho-cdc25C (Thr48) Antibody	W, IHC-P, IF-IC	H, Mk
#2041 PP2A A Subunit (81G5) Rabbit mAb	W, IHC-P, IF-IC	H, M, R, Mk
#2039 PP2A A Subunit Antibody	W, IF-IC, F	H, M, R, Mk, Dm
#4953 PP2A B Subunit Antibody	W, IP, IHC-P, IF-IC, F	H, M, R, Mk, (C)
#2038 PP2A C Subunit Antibody	W, IP, IHC-P, IF-IC, F	H, M, R, Mk, Dm, (C, Pg)
#3549 PP2C-α (D18C10) XP™ Rabbit mAb	XP W, IP, IHC-P, IF-IC, F	H, Mk
#2727 SHIP1 (C40G9) Rabbit mAb	W, IP, IF-IC, F	H
#2726 SHIP1 (P290) Antibody	W, IP, IF-IC, F	H
#2839 SHIP2 (C76A7) Rabbit mAb	W, IP, IF-IC, F	H

Adaptor Proteins

	Applications	Reactivity
#2747 c-Cbl Antibody	W, IP, IF-IC	H, M, R, Mk, (B)

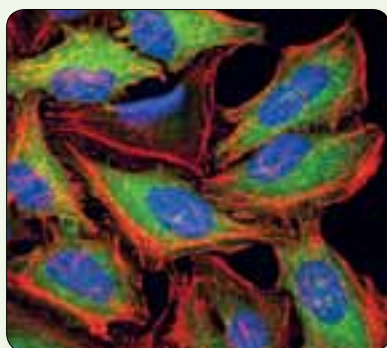
Nuclear Receptors

	Applications	Reactivity
#5153 Androgen Receptor (D6F11) XP™ Rabbit mAb	XP W, IHC-P, IF-IC, F	H
#4161 Phospho-Glucocorticoid Receptor (Ser211) Antibody	W, IP, IF-IC	H
#3960 Nur77 (D63C5) XP™ Rabbit mAb	XP W, IP, IF-IC, F	H, (Mk)
#2435 PPARγ (C26H12) Rabbit mAb	W, IHC-P, IF-IC	H, M, (R)
#2443 PPARγ (81B8) Rabbit mAb	W, IP, IF-IC	H, M, (R)
#3176 Progesterone Receptor B/B Antibody	W, IHC-P, IF-IC, F	H
#3157 Progesterone Receptor B (C1A2) Rabbit mAb	W, IHC-P, IF-IC, F	H
#2979 Phospho-SRC-3 (Thr24) Antibody	W, IF-IC	H
#2115 SRC-3 (11B1) Mouse mAb	W, IF-IC, F	H

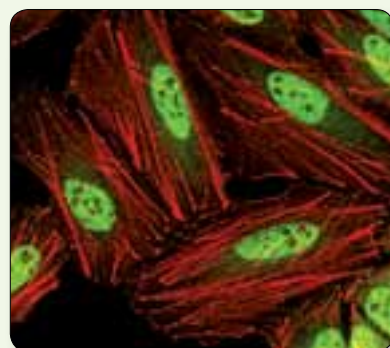
MARCKS (D88D11) XP™ Rabbit mAb #5607: Confocal IF analysis of Jurkat (A), MCF7 (B), and HeLa (C) cells using #5607 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



TGM2 (D11A6) XP™ Rabbit mAb #3557: Confocal IF analysis of HeLa cells using #3557 (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



PP2C-α (D18C10) XP™ Rabbit mAb #3549: Confocal IF analysis of HeLa cells using #3549 (green). Actin filaments were labeled using DY-554 phalloidin (red).



Immunofluorescence Protocol

For the recommended immunofluorescence protocols, please visit the individual product page on our website.

***IMPORTANT:** Please refer to the APPLICATIONS section on the front page of the datasheet to determine if this product is validated and approved for use on cultured cell lines (IF-IC), paraffin-embedded samples (IF-P), or frozen tissue sections (IF-F).

A. Solutions and Reagents

NOTE: Prepare solutions with Milli-Q or equivalently purified water.

- 10X Phosphate Buffered Saline (PBS):** To prepare 1 L add 80 g sodium chloride (NaCl), 2 g potassium chloride (KCl), 14.4 g sodium phosphate, dibasic (Na₂HPO₄) and 2.4 g potassium phosphate, mono-basic (KH₂PO₄) to 1 L dH₂O. Adjust pH to 8.0.
- 16%, methanol free, Polysciences, Inc. (cat# 18814), use fresh, store opened vials at 4°C in dark, dilute in PBS for use.
- Blocking Buffer:** (1X PBS / 5% normal goat serum (#5425) / 0.3% Triton X-100): To prepare 25 ml, add 2.5 ml 10X PBS, 1.25 ml normal serum from the same species as the secondary antibody (e.g., normal goat serum, normal donkey serum) and 21.25 ml dH₂O and mix well. While stirring, add 75 µl Triton X-100.
- Antibody Dilution Buffer:** (1X PBS / 5% normal goat serum (#5425) / 0.3% Triton X-100): To prepare 25 ml, add 2.5 ml 10X PBS, 1.25 ml normal serum from the same species as the secondary antibody (e.g., normal goat serum, normal donkey serum) and 21.25 ml dH₂O and mix well. While stirring, add 75 µl Triton X-100.
- 10 mM Sodium Citrate Buffer:** To prepare 1 L, add 2.94 g sodium citrate trisodium salt dihydrate (C₆H₅Na₃O₇•2H₂O) to 1 L dH₂O. Adjust pH to 6.0.
- Fluorochrome-conjugated secondary antibody** (recommended secondary antibodies)
NOTE: When using any primary or fluorochrome-conjugated secondary antibody for the first time, titrate the antibody to determine which dilution allows for the strongest specific signal with the least background for your sample.
- Prolong® Gold Antifade Reagent** (Invitrogen, Eugene, OR, Cat# P36930)
- Reagents specific to IF-P application:**
 - Xylene**
 - Ethanol**, anhydrous denatured, histological grade, 100% and 95%
- Antigen Unmasking:**
 - For Citrate:** 10 mM Sodium Citrate Buffer: To prepare 1 L add 2.94 g sodium citrate trisodium salt dihydrate (C₆H₅Na₃O₇•2H₂O) to 1 L dH₂O. Adjust pH to 6.0.
 - For EDTA:** 1 mM EDTA: To prepare 1 L add 0.372 g EDTA (C₁₀H₁₄N₂O₈Na₂•2H₂O) to 1 L dH₂O. Adjust pH to 8.0.

- Incubate sections in two washes of 95% ethanol for 10 minutes each.
- Rinse sections twice in dH₂O for 5 minutes each.

2. Antigen Unmasking:

NOTE: Consult product datasheet for specific recommendation for the unmasking solution.

- For Citrate:** Bring slides to a boil in 10 mM sodium citrate buffer pH 6.0, then maintain at a sub-boiling temperature for 10 minutes. Cool slides on bench top for 30 minutes.
- For EDTA:** Bring slides to a boil in 1 mM EDTA pH 8.0 followed by 15 minutes at a sub-boiling temperature. No cooling is necessary.

3. Proceed with Immunostaining (Section C).

III. Frozen/Cryostat Sections (IF-F)

- For fixed frozen tissue proceed with Immunostaining (Section C).**
- For fresh, unfixed frozen tissue, please fix immediately, as follows:**
 - Cover sections with 2–4% formaldehyde in PBS.
NOTE: Formaldehyde is toxic, use only in fume hood.
 - Allow sections to fix for 15 minutes at room temperature.
 - Rinse slides three times in PBS for 5 minutes each.
 - Proceed with Immunostaining (Section C).

C. Immunostaining

NOTE: All subsequent incubations should be carried out at room temperature unless otherwise noted in a humid light-tight box or covered dish/plate to prevent drying and fluorochrome fading.

- Block specimen in Blocking Buffer for 60 minutes.
- While blocking, prepare primary antibody by diluting as indicated on datasheet in Antibody Dilution Buffer.
- Aspirate blocking solution, apply diluted primary antibody.
- Incubate overnight at 4°C.
- Rinse three times in PBS for 5 minutes each.
NOTE: If using primary antibodies directly conjugated with Alexa Fluor® fluorochromes, then skip to step C8.
- Incubate specimen in fluorochrome-conjugated secondary antibody* diluted in Antibody Dilution Buffer for 1–2 hours at room temperature in dark.
- Rinse in PBS as in step 5.
- Coverslip slides with Prolong® Gold Antifade Reagent.
- For best results, examine specimens immediately using appropriate excitation wavelength. For long-term storage, store slides flat at 4°C protected from light.

*Recommended Secondary Antibodies:

Anti-Rabbit

- Anti-Rabbit IgG (H+L), F(ab)₂ Fragment (Alexa Fluor® 488 Conjugate) #4412
- Anti-Rabbit IgG (H+L), F(ab)₂ Fragment (Alexa Fluor® 555 Conjugate) #4413
- Anti-Rabbit IgG (H+L), F(ab)₂ Fragment (Alexa Fluor® 647 Conjugate) #4414

Anti-Mouse

- Anti-Mouse IgG (H+L), F(ab)₂ Fragment (Alexa Fluor® 488 Conjugate) #4408
- Anti-Mouse IgG (H+L), F(ab)₂ Fragment (Alexa Fluor® 555 Conjugate) #4409
- Anti-Mouse IgG (H+L), F(ab)₂ Fragment (Alexa Fluor® 647 Conjugate) #4410

Anti-Rat

- Anti-Rat IgG (H+L), (Alexa Fluor® 488 Conjugate) #4416
- Anti-Rat IgG (H+L), (Alexa Fluor® 555 Conjugate) #4417
- Anti-Rat IgG (H+L), (Alexa Fluor® 647 Conjugate) #4418

B. Specimen Preparation

I. Cultured Cell Lines (IF-IC)

NOTE: Cells should be grown, treated, fixed and stained directly in multi-well plates, chamber slides or on coverslips.

- Aspirate liquid, then cover cells to a depth of 2–3 mm with 4% formaldehyde in PBS.
NOTE: Formaldehyde is toxic, use only in fume hood.
- Allow cells to fix for 15 minutes at room temperature.
- Aspirate fixative, rinse three times in PBS for 5 minutes each.
- Proceed with Immunostaining (Section C).

II. Paraffin Sections (IF-P)

NOTE: Do not allow slides to dry at any time during this process.

- Deparaffinization/Rehydration:**
 - Incubate sections in three washes of xylene for 5 minutes each.
 - Incubate sections in two washes of 100% ethanol for 10 minutes each.

© 2005–3/2011 Cell Signaling Technology, Inc.

Cell Signaling Technology®, CST™, eXceptional Performance™, XMT®, XP™, PathScan®, PhosphoPlus®, and StemLite™ are trademarks of Cell Signaling Technology, Inc. / Motif antibodies are covered by U.S. Patent Nos.: 6,441,140; 6,982,318; 7,259,022; 7,344,714; U.S.S.N. 11,484,485; and all foreign equivalents. Use of Motif antibodies from Cell Signaling Technology (CST) within certain methods (e.g., U.S. Patent No. 7,198,896 & 7,300,753) may require a license from CST. For information regarding academic licensing terms please have your technology transfer office contact CST Legal Department at CST_ip@cellsignal.com. For information regarding commercial licensing terms please contact CST Pharma Services at ptmscan@cellsignal.com. Jak antibodies are sold under license from Chemicon International, Inc. relating to U.S. Patent No. 5,658,791. Selected Rabbit Monoclonals are produced under license (granting certain rights, including those under U.S. Patent No. 5,675,063 and in some instances 7,429,487) from Eptomics, Inc. / Anti-FLAG® is a trademark of Sigma-Aldrich. / Acumen® is a trademark of TTP Labtech, Ltd. / Celomics® and ArrayScan® are trademarks of Celomics, Inc. / In-Cell Western™, LI-COR® and Odyssey® are trademarks of LI-COR Biosciences. / DRAQ5® is a trademark of Biostatus Ltd. / Alexa Fluor®, BODIPY®, and Prolong® are trademarks of Molecular Probes, Inc. / DyLight® is a trademark of Thermo Fisher Scientific, Inc. and its subsidiaries. / The Alexa Fluor® dye conjugated secondary antibodies are sold under license from Life Technologies, Inc., for research use only in immunocytochemistry, immunohistochemistry, high content screening (HCS) analysis, or flow cytometry applications.

All content of this Brochure and Technical Reference is protected by U.S. and foreign intellectual property laws. You may not copy, modify, upload, download, post, transmit, republish or distribute any of the content without prior written permission from CST except for your own personal and non-commercial purposes. Except as provided in the preceding sentence, nothing contained in this Brochure and Technical Reference shall be construed as granting a license or other rights under any patent, trademark, copyright or other intellectual property of Cell Signaling Technology, Inc. or any third party. Unauthorized use of any CST trademark, service mark or logo may be a violation of federal and state trademark laws.

USA Headquarters

Cell Signaling Technology, Inc.

3 Trask Lane, Danvers, MA 01923

Tel: 978-867-2300 / E-mail: info@cellsignal.com

www.cellsignal.com

International Subsidiaries

Cell Signaling Technology (China) Limited

Tel: (86) 21-5835-6288 / E-mail: info@cst-c.com.cn

www.cellsignal.com

Cell Signaling Technology Europe

Tel: +31 (0)71 568 1060

E-mail: info@cellsignal.eu

www.cellsignal.com

Cell Signaling Technology Japan, K.K.

Tel: 03 (5652) 0213 / E-mail: info@cstj.co.jp

www.cstj.co.jp

International Distributors

ARGENTINA: Migliore Laclaustra S.r.l.

Tel: 5411-43729045

E-mail: info@migliorelaclaustra.com.ar

AUSTRALIA: Genesearch Pty. Ltd.

Toll Free: 1800 074 278

www.genesearch.com.au

BELGIUM/LUXEMBOURG: BIOKÉ

Tel: 0800-71640 / www.bioke.com

BRAZIL: Uniscience Do Brazil

Tel: (011) 3622 2320

www.uniscience.com

CANADA: New England Biolabs Ltd.

Toll Free: 1-800-387-1095 / www.neb.ca

CHILE: Genetica Y Tecnologia Ltda.

Tel: 56-2-633 52 69 / www.genytec.cl

COLOMBIA/PANAMA: Bio Products, Inc. dba Subiotech Ltda.

Tel: 561-434-2121 / www.bioproducts.net

CZECH REPUBLIC: Biotech A.s.

Toll Free: +420 800124683

www.biotech.cz

DENMARK: Medinova Scientific A/s

Tel: +45 39 56 20 00 / www.medinova.dk

ESTONIA/LATVIA/LITHUANIA: In Vitro Eesti Ou

Tel: +372 630 65 20 / www.invitro.ee

FINLAND: Finnzymes Oy

Tel: +358 9 2472 3010 / www.finnzymes.fi

FRANCE: Ozyme

Tel: (1) 34 60 24 24 / www.ozyme.fr

GERMANY/AUSTRIA: New England Biolabs GmbH

Tel: +49/ (0) 69 305 23140 / www.neb-online.de

GREECE: Boline Scientific Douros Bro – E. Demagos O.e.

Tel: 210-5226547 / E-mail: demagos@hol.gr

Hong Kong: Gene Company Limited

Tel: (852) 2896-6283 / www.genehk.com

HUNGARY: Kvalitex Kft.

Tel: (36) 1340-4700 / www.kvalitex.hu

ICELAND: Groco ehf

Tel: +354-568-8533 / www.groco.is

INDIA: Labmate (Asia) Pvt Ltd.

Tel: 44 222 000 66 / www.labmateasia.com

INDONESIA: P T Research Biolabs

Tel: 62-21-5859365

E-mail: Indonesia@researchbiolabs.com

REPUBLIC OF IRELAND: Isis Ltd.

Tel: (1) 286 7777 / www.isisco.ie

ISRAEL: Eldan Electronic Instruments Co., Ltd

Tel: (3) 9371132 / www.eldan.biz

ITALY: Euroclone

Toll Free: 800-315911 / www.euroclonegroup.it

KOREA: Koram Biotech Corp.

Tel: (02) 556-0311 / www.korambiotech.com

MALAYSIA: Research Biolabs Sdn Bhd

Tel: 60358829588 / www.researchbiolabs.com

MEXICO: Quimica Valaner S.a. De C.v.

Tel: 5525-5725 / www.valaner.com

THE NETHERLANDS: BIOKÉ

Tel: +31 (0)71 568 1000 / www.bioke.com

NEW ZEALAND: Biolab Ltd

Tel: (09) 980-6700 / www.biolabgroup.com

NORWAY: Medprobe As

Tel: 23 32 73 80 / www.medprobe.com

PORTUGAL: Izasa Lisbon

Tel: (21) 424 73 64 / www.izasa.es

SINGAPORE: Research Biolabs Pte Ltd

Tel: +65 6777 5366 / www.researchbiolabs.com

SLOVAK REPUBLIC: Biotech S.r.o.

Tel: (07) 54774488 / E-mail: biotech@biotech.cz

SOUTH AFRICA: Laboratory Specialist Services cc

Tel: +27 (0)21 7887755 / www.lss.co.za

SPAIN: Izasa, S.a.

Tel: (34) 902 20 30 70 / www.izasa.es

SWEDEN: In Vitro Sweden Ab

Tel: (08) 30 60 10 / www.invitro.se

SWITZERLAND: Bioconcept

Tel: (061) 486 80 80 / www.bioconcept.ch

TAIWAN: Taigen Bioscience Corp.

Tel: (02) 28802913 / www.taigen.com

THAILAND: Theera Trading Co. Ltd.

Tel: (02) 412-5672 / www.theetrad.com

TURKEY: Sacem Hayat Teknolojileri

Tel: +90 312 231 52 72 / www.sacem.com.tr

UNITED KINGDOM: New England Biolabs (UK) Ltd.

Toll Free: 0800 318486 / www.neb.uk.com

URUGUAY: Buro Ltda

Tel: (5982) 7074318 / E-mail: buro@st.com.uy

VENEZUELA: Bioproducts, Inc. DBA Corporacion Internacional De Tecnologia, S.a. (Corpointer)

Tel: 561-434-2121 / www.bioproducts.net