

New products

ANTIBODIES, ASSAYS, SMALL MOLECULES, INHIBITORS, AND PROTEINS

Signaling

Epigenetics &
Nuclear Function

Neuroscience

Cancer

Stem Cell

Immunology

Merck Millipore—with the expertise of Calbiochem®, Chemicon®, and Upstate®

Are non-coding RNAs regulating gene expression in your system? Find out with Magna Nuclear RIP™ Assay Kits

Historically chromatin was considered to contain only DNA, histones, non-histone proteins and transiently associated mRNAs. While this remains true, current data suggest that a variety of non-coding RNAs (e.g. long non-coding RNAs, enhancer RNAs and even miRNAs) also associate with chromatin and serve regulatory functions.

The new Magna Nuclear RIP™ kits use RNA binding protein immunoprecipitation (RIP) to enable the discovery and analysis of chromatin associated non-coding RNAs. Demonstrated to work for analysis using both RT-qPCR and RNA-seq, Magna Nuclear RIP™ kits are ideal for single loci analysis or genome-wide profiling. The kits are formulated to provide high signal-to-noise ratios and have options for using either native or cross-linked chromatin, thus allowing the analysis of both direct and indirect interactions.

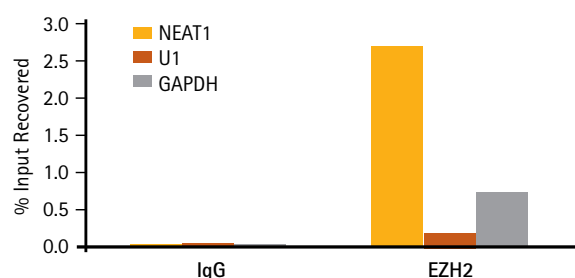
Magna Nuclear RIP™ kits

(Cat. Nos. 17-10520 and 17-10522)

Magna Nuclear RIP™ kits include all required solutions for the isolation and recovery of chromatin associated RNA. EZ Magna Nuclear RIP™ kits (Cat. Nos. 17-10521 and 17-10523) include all required solutions plus positive and negative controls, so that you can have the immediate success and confidence in your results. Order your Magna Nuclear RIP™ kit today and discover how non-coding RNAs regulate expression.

Recover and analyze non-coding or messenger RNA using native or cross-linked chromatin.

Magna Nuclear RIP™ (Cross-Linked) of EZH2-associated lncRNA NEAT1 and GAPDH mRNA.



Magna Nuclear RIP™ Advantages:

- Native or cross-linked chromatin kit options allow analysis of high and low affinity interactions of a variety of chromatin-associated RNAs
- Flexible, scalable input requirements: Recover RNA from millions of cells or as few as 5,000 cells (cross-linked) or 100,000 cells (native)
- Magnetic protein A/G bead blend and optimized buffer system result in low backgrounds and high signal-to-noise ratios –quickly!
- Suitable for analysis by RT-qPCR or RIP-seq
- Complete set of reagents and detailed protocol to enable first-time success
- Kits available with positive and negative control antibodies and qPCR primers

Epigenetics & Nuclear Function

PUBLICATION HIGHLIGHT

Anti-BRD4

(Cat. No. ABE1391)

Merck Millipore's newly released Anti-BRD4 rabbit polyclonal antibody (Cat. No. ABE1391) has been published multiple times, most recently in a PLoS publication revealing the role of BRD4 isoforms in metastatic breast cancer progression.

In the paper entitled, BRD4 Short Isoform Interacts with RRP1B, SIPA1 and Components of the LINC Complex at the Inner Face of the Nuclear Membrane* A multinational research group headed by the U.S. National Cancer Institute (NCI) explored why BET inhibitors, which target BRD4, are effective against primary mammary tumors but not pulmonary metastases. Using the BRD4 antibody specific for the short isoform, they were able to show that the pro-metastatic short isoform has different protein-protein interactions, nuclear localization and acetylated histone binding pattern than the long isoform, suggesting very different roles in cancer progression.

* Alsarraj J, Faraji F, Geiger TR, Mattaini KR, Williams M, Wu J, Ha NH, Merlino T et al. BRD4 short isoform interacts with RRP1B, SIPA1 and components of the LINC complex at the inner face of the nuclear membrane. PLoS One. 2013 Nov 19;8(11):e80746.

Additional publications using this antibody:
Dey A, Nishiyama A, Karpova T, McNally J, Ozato K. Brd4 marks select genes on mitotic chromatin and directs postmitotic transcription. Mol Biol Cell. 2009 Dec; 20(23):4899-909.

Mochizuki K, Nishiyama A, Jang MK, Dey A, Ghosh A, Tamura T, Natsume H, Yao H, Ozato K. The bromodomain protein Brd4 stimulates G1 gene transcription and promotes progression to S phase. J Biol Chem. 2008 Apr 4;283(14):9040-8.

Dey A, Chitsaz F, Abbasi A, Misteli T, Ozato K. The double bromodomain protein Brd4 binds to acetylated chromatin during interphase and mitosis. Proc Natl Acad Sci USA. 2003 Jul 22;100(15):8758-63.

Dey A, Ellenberg J, Farina A, Coleman AE, Maruyama T, Sciortino S, Lippincott-Schwartz J, Ozato K. A bromodomain protein, MCAP, associates with mitotic chromosomes and affects G(2)-to-M transition. Mol Cell Biol. 2000 Sep;20(17):6537-49.

Description	Host	Species	Reactivity	Key Applications	Cat. No.
Antibodies					
Anti-Nucleophosmin, clone 28M1	Mouse	Hu	WB, IHC(P), IC	MABE937	
Anti-26S proteasome regulatory subunit RPN11, clone 7C7.1	Mouse	Hu, Rt	WB, IHC(P)	MABE881	
Anti-5-hydroxymethylcytosine	Rabbit	All	DB, EIA, MeDIP	ABE314	
Anti-acetyl Histone H3 (Lys9), Alexa Fluor® 488 Conjugate	Rabbit	Hu	IC	ABE18-AF488	
Anti-ADAR, clone EPR7034, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE516	
Anti-ATF-3, clone EPMIL41, rabbit monoclonal	Rabbit	Hu	WB	MABE471	
Anti-Aurora-A, clone EPR5026, rabbit monoclonal	Rabbit	Hu	WB, IF	MABE549	
Anti-BHMT, clone EPR6782, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE536	
Anti-Brd4	Rabbit	Hu	WB, ChIP, IC	ABE1391	
Anti-BRD4, clone EPR5150(2), rabbit monoclonal	Rabbit	Hu, Ms	WB, IHC	MABE535	
Anti-CDC2, clone EPR165, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE543	
Anti-Cdc25B, clone EPR3459(2), rabbit monoclonal	Rabbit	Hu	WB	MABE478	
Anti-Cdc45, clone EPR5759, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE534	
Anti-Cdk1/cdc2, C-term	Rabbit	Ms, Hu	WB, IHC, IP	ABE1403	
Anti-Cdk4, clone EPR4513, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE548	
Anti-CDK7, clone EP4324, rabbit monoclonal	Rabbit	Hu	WB	MABS745	
Anti-CDX1, clone EPR4819(2), rabbit monoclonal	Rabbit	Hu	WB, IF	MABE533	
Anti-CHD3, clone EPR7054, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE482	
Anti-Chk2, clone EPR5528, rabbit monoclonal	Rabbit	Hu	WB	MABE491	
Anti-Chromobox protein homolog 5	Rabbit	Hu, Ms	WB, IC	ABE1010	
Anti-CTCF, clone EPR7314(B), rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE547	
Anti-Cytosolic 5'-nucleotidase 1B	Rabbit	Hu	WB, IHC	ABE1005	
Anti-DDB1, clone EPR6088, rabbit monoclonal	Rabbit	Hu, Ms	WB	MABE583	
Anti-dimethyl Histone H2B (Pro1)	Rabbit	Hu, Ms	WB, IC, DB	ABE353	
Anti-DMRT1, clone EPR6936, rabbit monoclonal	Rabbit	Hu	WB	MABE469	
Anti-DNA polymerase subunit γ-1/POLG	Rabbit	Hu	IHC, IP	ABC462	
Anti-DNA-PK/PRKDC, clone EPR392, rabbit monoclonal	Rabbit	Hu	WB	MABE508	
Anti-E3 ubiquitin-protein ligase UHRF1, clone 7C8	Mouse	Hu	IC, ChIP, WB	MABE945	
Anti-E3 ubiquitin-protein ligase UHRF1, clone BF18.11	Mouse	Ms	WB, IC, IP	MABE977	
Anti-EGR1, clone EPR5014(2), rabbit monoclonal	Rabbit	Hu	WB, FC	MABE531	
Anti-ELF3, clone EPESER1, rabbit monoclonal	Rabbit	Hu, Ms, Rt	WB, IF	MABE475	
Anti-ERCC1, clone EPR7277, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE473	
Anti-FANCC, clone 8F3	Mouse	Rt, Ms, Hu	WB, IP, IC	MABC524	
Anti-FKBP5, clone EPR6617, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABC654	
Anti-Fil-1, clone EPR4646, rabbit monoclonal	Rabbit	Hu, Ms	WB, IC	MABE530	
Anti-FOXO1, clone EPR6843, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE561	
Anti-FOXO4 Phospho (pT32), clone EPR2314(2), rabbit monoclonal	Rabbit	Hu	WB	MABE553	
Anti-FUS, clone EPR5813, rabbit monoclonal	Rabbit	Hu, Rt, Ms	WB, IHC	MABE587	
Anti-Gata1, clone EPR2820(2), rabbit monoclonal	Rabbit	Hu	WB	MABE470	
Anti-Gata4, clone EPR4768, rabbit monoclonal	Rabbit	Hu	WB, IF	MABE477	
Anti-HDAC9, clone EPR5223, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE562	
Anti-HNF 1 β, clone EPR6333(2), rabbit monoclonal	Rabbit	Hu	WB	MABE476	
Anti-HoxB4, clone EPR1917, rabbit monoclonal	Rabbit	Hu	WB, IF	MABE511	

LEGEND

Species: Hu=Human, Ms=Mouse, Rt=Rat, Mky=Monkey,

Applications: FC=Flow Cytometry, IC=Immunocytochemistry, IHC=Immunohistochemistry, IHC(P)=Immunohistochemistry (Paraffin), IF=Immunofluorescence, IP=Immunoprecipitation, WB=Western Blotting, ChIP=Chromatin IP, EIA=Enzyme Immunoassay, MeDIP=Methylated DNA IP, ELISA=Enzyme Immunoassay, DB=Dot Blot, PIA=Peptide Inhibition Assay, CC=Cell Culture, AA=Activity Assay, MPX=Multiplexing, Inhib=Inhibition, Neut=Neutralizing, CH=Cell Harvesting

For published studies using this new product, visit: www.merckmillipore.com

For publications on using these small molecules, visit: www.merck4biosciences.com

Epigenetics & Nuclear Function (continued)

Description	Host	Species Reactivity	Key Applications	Cat. No.
Antibodies (continued)				
Anti-HP1 α , clone EPR5777, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE479
Anti-IRF-2, clone EPR4644(2), rabbit monoclonal	Rabbit	Hu, Ms	WB, IHC	MABE484
Anti-JunB, clone EPR6518, rabbit monoclonal	Rabbit	Hu	WB, IF	MABE559
Anti-JunD, clone EPR6520, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE558
Anti-MCM3, clone EPR7080, rabbit monoclonal	Rabbit	Hu, Ms, Rt	WB, IHC	MABE544
Anti-Myf-5, clone EPR4899, rabbit monoclonal	Rabbit	Hu, Ms, Rt	WB, IHC	MABE485
Anti-MYH, clone EP4669, rabbit monoclonal	Rabbit	Hu	WB	MABE489
Anti-MyoD, clone EPR6653, rabbit monoclonal	Rabbit	Hu	WB, FC	MABE514
Anti-Myogenin, clone EPR4789, rabbit monoclonal	Rabbit	Hu, Ms	WB, IHC	MABE502
Anti-NeuroD1	Rabbit	Ms, Rt	WB, ChIP, IHC	ABE991
Anti-Nuclear factor 1/C	Rabbit	Hu, Ms, Rt	WB, ChIP, Electrophoretic Mobility Shift Assay	ABE1387
Anti-Nucleolin, clone EPR7952, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE466
Anti-Oct-4	Rabbit	Ms, Hu	WB, IC, IP	ABE422
Anti-p57Kp2, clone EP2718(2), rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE560
Anti-PAX5, clone EPR3730(2), rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE517
Anti-phospho H2AX (Ser139), Alexa Fluor® 647 Conjugate	Rabbit	Hu	IC	07-164-AF647
Anti-phospho Histone H3 (Tyr41)	Rabbit	Hu	WB, DB, IHC	ABE1413
Anti-phospho PLK-1 (Thr210), clone EPR2612(2), rabbit monoclonal	Rabbit	Hu	WB	MABE557
Anti-phospho-CDC2 (Tyr15), clone EPR7875, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE542
Anti-phospho-Cyclin B1 (Ser126), clone EPR3670, rabbit monoclonal	Rabbit	Hu	WB	MABE490
Anti-phospho-Cyclin E1 (Thr77), clone EPR2242(2), rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE582
Anti-phospho-DNA-PK/PRKDC (Ser2056), clone EPR5670, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE509
Anti-phospho-Histone H3 (Ser10), clone 63-1C-8, Recombinant	Rabbit	Hu	WB, DB, FC	05-817R-I
Anti-phospho-Histone H3 (Thr11), clone EPR5930, rabbit monoclonal	Rabbit	Hu	WB	MABE468
Anti-phospho-p53 (Thr377), clone EPR5678, rabbit monoclonal	Rabbit	Hu	WB	MABE518
Anti-phospho-PML (Ser518), clone EPR6151, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE563
Anti-phospho-Rb (Thr826), clone EPR5351, rabbit monoclonal	Rabbit	Hu	WB	MABE486
Anti-PRMT5, clone EPR5772, rabbit monoclonal	Rabbit	Hu, Ms	WB, IHC	MABE551
Anti-PRMT8	Rabbit	Hu	WB, IHC	ABS517
Anti-PROX1, clone EPR3128(2), rabbit monoclonal	Rabbit	Hu	WB	MABE488
Anti-RAD51, clone EPR4030(3), rabbit monoclonal	Rabbit	Hu, Rt	WB, IHC	MABE515
Anti-Rad51B, clone EPR5728, rabbit monoclonal	Rabbit	Hu	WB, IF	MABN1127
Anti-RAR β , clone EPR2017, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE474
Anti-RASSF1, clone EPR7127, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE526
Anti-RBP-MS	Rabbit	Ms, Hu	WB, IP, IC	ABE258
Anti-RBX1, clone EPR6850(B), rabbit monoclonal	Rabbit	Hu	WB, IHC	MABE554
Anti-RRM1, clone EPR8482, rabbit monoclonal	Rabbit	Hu, Ms	WB, IHC	MABE525
Anti-SET7/9, clone EPR5574, rabbit monoclonal	Rabbit	Hu, Ms, Rt	WB	MABE529

LEGEND

Species: Hu=Human, Ms=Mouse, Rt=Rat, Mky=Monkey,

Applications: FC=Flow Cytometry, IC=Immunocytochemistry, IHC=Immunohistochemistry, IHC(P)=Immunohistochemistry (Paraffin), IF=Immunofluorescence, IP=Immunoprecipitation, WB=Western Blotting, ChIP=Chromatin IP, EIA=Enzyme Immunoassay, MeDIP=Methylated DNA IP, ELISA=Enzyme Immunoassay, DB=Dot Blot, PIA=Peptide Inhibition Assay, CC=Cell Culture, AA=Activity Assay, MPX=Multiplexing, Inhib=Inhibition, Neut=Neutralizing, CH=Cell Harvesting

PUBLICATION HIGHLIGHT

Anti-Nuclear Factor 1/C Rabbit Polyclonal Antibody (Cat. No. ABE1387)

Merck Millipore's newly released Anti-nuclear factor 1/C rabbit polyclonal antibody (Cat. No. ABE1387) has recently been published in an important study describing how calcineurin modulates nuclear factor 1 dephosphorylation in malignant glioma. In the paper entitled, Calcineurin regulates nuclear factor 1 dephosphorylation and activity in malignant glioma cell lines* The authors showed that nuclear factor 1 (NF1), which normally regulates glial development in the brain, is hypophosphorylated in these aggressive brain cancers. Using Merck Millipore's Anti-NF1/C antibody in chromatin immunoprecipitation, they showed that NF1 occupies the GFAP and B-FABP promoters in NF1-hypophosphorylated, GFAP/B-FABP-positive malignant glioma cells. Furthermore, the researchers demonstrated that calcineurin expression was upregulated in areas of tumor tissue showing high infiltration and migration, suggesting that calcineurin plays an important role in regulating NF1 transcription and in endowing malignant gliomas with invasive potential.

*Brun M, Glubrecht DD, Baksh S, Godbout R. Calcineurin regulates nuclear factor 1 dephosphorylation and activity in malignant glioma cell lines. *J Biol Chem.* 2013 Aug 16;288(33):24104-15.

Additional publications using this antibody: Vicent GP, Zaurin R, Nacht AS, Font-Mateu J, Le Dily F, Beato M. Nuclear factor 1 synergizes with progesterone receptor on the mouse mammary tumor virus promoter wrapped around a histone H3/H4 tetramer by facilitating access to the central hormone-responsive elements. *J Biol Chem.* 2010 Jan 22;285(4):2622-31.

Hebbard PB, Archer TK. Chromatin-dependent cooperativity between site-specific transcription factors *in vivo*. *J Biol Chem.* 2007 Mar 16;282(11):8284-91.

Johansson EM, Kannius-Janson M, Bjursell G, Nilsson J. The p53 tumor suppressor gene is regulated *in vivo* by nuclear factor 1-C2 in the mouse mammary gland during pregnancy. *Oncogene.* 2003 Sep 4;22(38):6061-70.

Kannius-Janson M, Johansson EM, Bjursell G, Nilsson J. Nuclear factor 1-C2 contributes to the tissue-specific activation of a milk protein gene in the differentiating mammary gland. *J Biol Chem.* 2002 May 17;277(20):17589-96.

For published studies using this new product, visit: www.merckmillipore.com

For publications on using these small molecules, visit: www.merck4biosciences.com

Epigenetics & Nuclear Function (continued)

PUBLICATION HIGHLIGHT ON SMALL MOLECULES:

EZH2 Inhibitor III, GSK126 (Cat. No. 500580)

Merck Millipore recently made available a potent small molecule, GSK126. This epigenetic modulator was made famous in the 2012 Nature paper, EZH2 inhibition as a therapeutic strategy for lymphoma with EZH2-activating mutations*. Demonstrating the effectiveness of GSK126 in inhibiting the proliferation of certain lymphoma cell lines, this publication was a landmark study in the use of epigenetic regulators as anticancer therapeutics. EZH2, the inhibitor's target, represses tumor suppressor genes by methylating histone H3 on lysine 27 and is overexpressed in many tumor types. Today, the first-ever EZH2 inhibitor is in clinical trials, while researchers rush to fill the pipeline with more therapeutic candidates that modulate the polycomb signaling network.

*McCabe MT, Ott HM, Ganji G, Korenchuk S, Thompson C, Van Aller GS, Liu Y, et al. EZH2 inhibition as a therapeutic strategy for lymphoma with EZH2-activating mutations. Nature. 2012 Dec 6;492(7427):108–12.

Description	Details	Cat. No.
Small Molecules & Inhibitors		
Ezh2 Inhibitor III, GSK126	A cell-permeable EI1 (Cat. No. 500561) structural analog that acts as an equally potent, SAM-competitive, Ezh2/PRC2 inhibitor ($K_i = 0.5$ to 3 nM against wt and mutant Ezh2-containing PRC2; $[SAM] = 7.5$ μ M) with similar selectivity over Ezh1/PRC2 ($K_i = 89$ nM) and other HTMases as EI1. Among panels of 14 HDACs, 11 GPCRs, and 300 kinases, only serotonin 3 receptor, JMJD2d, and CaMK1a are significantly inhibited at much higher concentrations ($IC_{50} \geq 4$ μ M).	500580
Ezh2 Inhibitor III, SAH-EZH2	A stabilized α -helical 27-mer peptide with E54Q modification that exhibits robust cellular uptake and nuclear localization and directly binds to embryonic ectoderm development (EED; $K_d = 320$ nM) and disrupts protein-protein interaction of EED with EZH2 (Enhancer of zeste homolog 2) and EZH1. Induces growth arrest at the Go/G1 phase (after 6 days of treatment) normal cells (~90-fold therapeutic window). Although it intercalates with DNA, it does not activate the DNA damage response.	508320
RNA Polymerase I Inhibitor II, BMH-21	A cell-permeable, non-toxic, benzopyridoquinazoline-carboxamide compound that blocks the growth and viability of a variety of cancer cell lines ($GI_{50} = 160$ nM in NCI-60 cells), but does not significantly affect normal cells (~90-fold therapeutic window). Although it intercalates with DNA, it does not activate the DNA damage response.	509911

Cancer

Description	Host	Species Reactivity	Key Applications	Cat. No.
Antibodies				
Anti-BCL2A1/BFL-1	Rabbit	Hu	WB, IHC, IP	ABC498
Anti-CARD9, clone EPR6488, rabbit monoclonal	Rabbit	Hu	WB, IHC, IF	MABC744
Anti-CARD9, clone EPR6489, rabbit monoclonal	Rabbit	Hu	WB, FC	MABC746
Anti-CD73, clone EPR6114, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABC668
Anti-CIDE/CSP27	Rabbit	Hu	WB, IHC	ABC300
Anti-Cytochrome C, clone EPR1327, rabbit monoclonal	Rabbit	Hu	WB, IHC, IF	MABC743
Anti-DAPK1, clone EPR1818(2), rabbit monoclonal	Rabbit	Hu	WB, IHC, IF	MABC740
Anti-DLD, clone EPR6635, rabbit monoclonal	Rabbit	Hu	WB, IHC, IF	MABC745
Anti-DNA polymerase subunit γ -1/POLG	Rabbit	Hu	IHC, IP	ABC462
Anti-ER β , clone EPR3778, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS732
Anti-FABP1	Rabbit	Hu, Rt	WB, IHC	ABC430
Anti-FANCC, clone 8F3	Mouse	Rt, Ms, Hu	WB, IP, IC	MABC524
Anti-Ferritin Heavy Chain, clone 1-2.3.1.2	Mouse	Hu	WB, IHC	MABC602
Anti-FFAR2/GPR43	Rabbit	Rt, Ms	WB, IHC	ABC299
Anti-Folliculin (FLCN), clone 8D9.2	Mouse	Hu	WB, IC	MABC288
Anti-FUNDC1	Rabbit	Hu, Ms, Rt	WB, IC, IP	ABC506
Anti-GHRHR	Rabbit	Hu, Rt	WB, IHC(P)	ABC445
Anti-Growth Hormone Receptor/GHR	Rabbit	Hu	WB, IHC(P)	ABC444
Anti-HSP70L1, clone EPR4211(2), rabbit monoclonal	Rabbit	Hu	WB	MABC651
Anti-IGF2	Rabbit	Hu	WB	ABC504
Anti-KLK2, clone EPR6676, rabbit monoclonal	Rabbit	Hu	WB	MABC692
Anti-LAMP-2, clone 4G2.1	Mouse	Hu	WB	MABC59
Anti-LC3-I/II	Rabbit	Hu	WB, IC	ABC929
Anti-Menin/MEN1, clone 9H1.2	Mouse	Hu	WB	MABC179
Anti-Mucin-16 (MUC16)	Rabbit	Hu	IHC, FC	ABC240
Anti-Mucin-4/MUC4	Rabbit	Hu	WB, IHC	ABC239
Anti-NEDD4L, clone EPR8461, rabbit monoclonal	Rabbit	Hu	WB	MABC657
Anti-NOTCH 3/N3ECD, clone 1E4	Mouse	Hu	WB, IC, Electron Microscopy	MABC594
Anti-p67-phox, clone EPR5065, rabbit monoclonal	Rabbit	Hu	WB, IHC, FC	MABC739
Anti-PATE1	Rabbit	Hu, Rt	WB, IHC(P)	ABC244
Anti-PATE1	Rabbit	Hu	WB, IHC(P)	ABC930

LEGEND

Species: Hu=Human, Ms=Mouse, Rt=Rat, Mky=Monkey,
Applications: FC=Flow Cytometry, IC=Immunocytochemistry, IHC=Immunohistochemistry, IHC(P)=Immunohistochemistry (Paraffin), IF=Immunofluorescence, IP=Immunoprecipitation, WB=Western Blotting, ChIP=Chromatin IP, EIA=Enzyme Immunoassay, MeDIP=Methylated DNA IP, ELISA=Enzyme Immunoassay, DB=Dot Blot, PIA=Peptide Inhibition Assay, CC=Cell Culture, AA=Activity Assay, MPX=Multiplexing, Inhib=Inhibition, Neut=Neutralizing, CH=Cell Harvesting

For published studies using this new product, visit: www.merckmillipore.com

For publications on using these small molecules, visit: www.merck4biosciences.com

Cancer (continued)

Description	Host	Species Reactivity	Key Applications	Cat. No.
Antibodies (continued)				
Anti-PGAM5	Rabbit	Hu	WB	ABC517
Anti-phospho-CYLD	Rabbit	Hu	WB	ABC478
Anti-phospho-LC3 (Ser12)	Rabbit	Hu, Ms	WB, PIA	ABC466
Anti-phospho-ULK1 (Ser638), clone 6B3.2	Mouse	Hu	WB, IC	MABC306
Anti-PI3K Type 3, clone EPR5301, rabbit monoclonal	Rabbit	Hu, Ms, Rt	WB, IHC	MABN1114
Anti-Rab32	Rabbit	Ms	WB, IP	ABC520
Anti-Rad51B, clone EPR5728, rabbit monoclonal	Rabbit	Hu	WB, IF	MABN1127
Anti-Sec5/Exoc2, clone 558A10	Mouse	Hu, Rt	WB, IHC	MABC569
Anti-Stanniocalcin-1, clone EPR6055, rabbit monoclonal	Rabbit	Hu	WB	MABC738
Anti-Tenomodulin/TNMD	Rabbit	Hu, Ms	WB, IHC	ABC305
Anti-TPO, clone EPR5380, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABC650
Anti-Transcription Termination Factor 1, clone 4G2.2	Mouse	Hu	WB, IC	MABC267

Description	Details	Cat. No.
Small Molecules & Inhibitors		
Apoptosis Activator VIII, TP421	A cell-permeable triphenylphosphonium compound that exhibits selective toxicity towards cancer cells and inhibits their proliferation (IC_{50} = 400, 500, 800 nM and 1.1 μ M for HPAC, MIA PaCa-2, BxPC-3, and PANC-1 pancreatic cancer cells, respectively). Arrests cell cycle at G0/G1 phase of the cell cycle in a time- and dose-dependent manner. Induces apoptosis by activating caspase-8 and 7 and by lowering the levels of Bcl-2 and survivin in cancer cells. Reduces autophagy as evidenced by a reduction in beclin-1 and increase in LC3B-II and p62 levels (at ~20 μ M).	508774
BMI-1 Expression Inhibitor, PTC-209	A cell-permeable imidazopyrimidinyl-thiazolamine compound that effectively downregulates cellular BMI-1 protein level by inhibiting BMI-1 transcription via a yet unidentified mechanism, thereby reducing BMI-1-dependent RING1A E3 ligase activity and RING1A-mediated H2A ubiquitination (uH2A)/epigenetic regulations. Shown to exhibit antiproliferation activity against human colon cancer cells via G0 cell cycle arrest and apoptosis induction with a greater drug impact on self-renewing cancer-initiating cells (CICs; cancer stem cells).	530154
Ezh2 Inhibitor III, GSK126	A cell-permeable E11 (Cat. No. 500561) structural analog that acts as an equally potent, SAM-competitive, Ezh2/PRC2 inhibitor (K_i = 0.5 to 3 nM against wt and mutant Ezh2-containing PRC2; [SAM] = 7.5 μ M) with similar selectivity over Ezh1/PRC2 (K_i = 89 nM) and other HTMases as E11. Among panels of 14 HDACs, 11 GPCRs, and 300 kinases, only serotonin 3 receptor, JMJD2d, and CaMK1a are significantly inhibited at much higher concentrations (IC_{50} $\geq$ 4 μ M).	500580
Ezh2 Inhibitor III, SAH-EZH2	A stabilized α -helical 27-mer peptide with E54Q modification that exhibits robust cellular uptake and nuclear localization and directly binds to embryonic ectoderm development (EED; K_d = 320 nM) and disrupts protein-protein interaction of EED with EZH2 (Enhancer of zeste homolog 2) and EZH1. Induces growth arrest at the G0/G1 phase (after 6 days of treatment) and monocyte-macrophage differentiation in MLL-AF9 leukemia cells without inducing any apoptosis.	508320
InSolution™ Bafilomycin A1	A 100 μ M (15 μ g/241 μ L) sterile-filtered solution of Bafilomycin A1, $\geq$ 97% by HPLC in 90% DMSO.	508409
InSolution™ Bcl-2 Inhibitor VI, ABT-737	A 25 mM (5 mg/246 μ L) solution of Bcl-2 Inhibitor VI, ABT-737 (Cat. No. 197333) in DMSO.	197334
InSolution™ Doxorubicin, Hydrochloride	A 10 mM (5 mg/862 μ L) sterile-filtered solution of Doxorubicin, HCl (Cat. No. 324380) in H ₂ O.	504042
Mitosis Inhibitor, AK301	A cell permeable piperazine derivative that induces irreversible mitotic arrest in colon cancer cells (IC_{50} = 115 nM in HT29 cells) and increases their sensitivity to TNF-induced apoptosis (EC_{50} = 172 nM). Also shown to enhance FasL and TRAIL-induced caspase-3 activity in colon cancer cells. Induces G2/M arrest in both HT29 colon cancer cells and WI38 lung fibroblasts, however, this effect is more pronounced in cancer cells.	530390



Consider a Partnership with Merck Millipore

Bulk – Custom – OEM Services

For information on bulk quantities or other customization of the products in this guide, please visit:

www.merckmillipore.com/partnerships

Contact Us Today!



LEGEND

Species: Hu=Human, Ms=Mouse, Rt=Rat, Mky=Monkey, **Applications:** FC=Flow Cytometry, IC=Immunocytochemistry, IHC=Immunohistochemistry, IHC(P)=Immunohistochemistry (Paraffin), IF=Immunofluorescence, IP=Immunoprecipitation, WB=Western Blotting, ChIP=Chromatin IP, EIA=Enzyme Immunoassay, MeDIP=Methylated DNA IP, ELISA=Enzyme Immunoassay, DB=Dot Blot, PIA=Peptide Inhibition Assay, CC=Cell Culture, AA=Activity Assay, MPX=Multiplexing, Inhib=Inhibition, Neut=Neutralizing, CH=Cell Harvesting

For published studies using this new product, visit: www.merckmillipore.com

For publications on using these small molecules, visit: www.merck4biosciences.com

Cancer (continued)

Description	Details	Cat. No.
Small Molecules & Inhibitors (continued)		
Myristoylated-FEEERA, mP6	A cell-permeable myristoylated hexapeptide derived from EXE-motif-containing integrin $\beta 3$ subunit that selectively inhibits integrin outside-in signaling without affecting inside-out signaling. Shown to specifically block the interaction of $\alpha 3$ and integrin $\beta 3$ subunit resulting in the inhibition of $\alpha 3$ -dependent early phase outside-in signaling. Selectively inhibits thrombosis without affecting haemostasis.	509884
PDX1 Inducer, BRD7552	A cell-permeable, glucose-derived diversity oriented synthesized compound that acts as reversible inducer of PDX1 expression in human PANC-1 cells, primary human islets, and human duct derived cells in a dose- and time-dependent manner with maximal effect observed on day 9 at 5 μ M. Its action is dependent on the presence of FOXA2 in cells as FOXA2 knockdown cells treated with this compound do not exhibit any effect on PDX1 expression.	509664
Pladienolide B, <i>Streptomyces</i> sp.	A cell-permeable, antitumor macrolide that acts as a time- and dose-dependent inhibitor of mRNA splicing. Shown to directly target the spliceosome-associated protein 130 (SAP130, splicing factor SF3b subunit 3) and impair U2 small nuclear ribonucleoprotein (U2 snRNP) interaction with pre-mRNA causing unspliced or incompletely spliced pre-mRNA accumulation and altered gene expression. Blocks cell cycle by arresting progression at both G1 and G2/M phases.	530196
PRMT Inhibitor VII, DB867	A cell-permeable biscoxamidine derivative that acts as a selective inhibitor of protein arginine methyltransferase 1 (PRMT1; IC_{50} = 9.5 μ M). Exhibits about 10-fold greater selectivity over PRMT5 (IC_{50} = 110 μ M) and PRMT6 (IC_{50} = 118 μ M). Shown to block BMP4-induced phosphorylation and activation of Smad1/Smad5 and asymmetric dimethylation of Arg3 on histone 4 (H4R3) in HaCaT cells transfected with PRMT1.	506046
RNA Polymerase I Inhibitor II, BMH-21	A cell-permeable, non-toxic, benzopyridoquinazoline-carboxamide compound that blocks the growth and viability of a variety of cancer cell lines (GI_{50} = 160 nM in NCI-60 cells), but does not significantly affect normal cells (~90-fold therapeutic window). Although it intercalates with DNA, it does not activate the DNA damage response.	509911
RPA Inhibitor, TDRL-505	A cell-permeable quinolinyl-dihydropyrazolyl-oxobutanoic acid compound that targets replication protein A (RPA) and reversibly disrupts its binding to single strand DNA (ssDNA; IC_{50} = 12.9, 15.7 and 30.8 μ M for ssDNA, SpPot1(DBD) and in H460 NSCLC cell, respectively). Shown to induce cell cycle arrest at the G1 phase and trigger necrosis in H460 and A549 lung carcinoma cells. Effectively potentiates the chemotoxic effects cisplatin (Cat. No. 232120) and etoposide (Cat. No. 341205) in lung carcinoma cells.	530535
Telomerase Inhibitor X, BIBR1532	A cell-permeable benzoic acid based compound that acts as a selective, highly potent, non-nucleotide competitive inhibitor of the catalytic activity of telomerase (IC_{50} = 93 nM in HeLa cells nuclear extracts). Also shown to be effective against recombinant, affinity purified telomerase. Blocks the growth and proliferation of HeLa cells (~20 μ M) by inducing apoptosis. Causes a continuous erosion of telomeres in multiple human cancer cell lines.	508839
Transglutaminase 2 Inhibitor, ZDON	A cell-permeable, peptide-based (Z- QVPL) irreversible inhibitor of transglutaminase 2 (TG2) (IC_{50} = 150 nM for recombinant TG2) that acts by reacting with the active site cysteine of TG2. Exhibits far less potency against TG1 and TG3. Shown to significantly increase PGC-1 α and cytochrome c mRNA levels in Q7 and Q111 cells (~50 mM). Exhibits protective effect in cells exposed to 3-nitropropionic acid and NMDA, however, it does not directly affect mitochondrial bioenergetics.	616467

 For published studies using this new product, visit: www.merckmillipore.com

 For publications on using these small molecules, visit: www.merck4biosciences.com

LEGEND

Species: Hu=Human, Ms=Mouse, Rt=Rat, Mky=Monkey,

Applications: FC=Flow Cytometry, IC=Immunocytochemistry, IHC=Immunohistochemistry, IHC(P)=Immunohistochemistry (Paraffin), IF=Immunofluorescence, IP=Immunoprecipitation, WB=Western Blotting, ChIP=Chromatin IP, EIA=Enzyme Immunoassay, MeDIP=Methylated DNA IP, ELISA=Enzyme Immunoassay, DB=Dot Blot, PIA=Peptide Inhibition Assay, CC=Cell Culture, AA=Activity Assay, MPX=Multiplexing, Inhib=Inhibition, Neut=Neutralizing, CH=Cell Harvesting

Cell Structure

Description	Host	Species Reactivity	Key Applications	Cat. No.
Antibodies				
Anti-AggreCAN (full length), clone 4D7.1	Mouse	Hu	WB	MABT153
Anti-Cadherin-11/OB Cadherin	Rabbit	Hu, Ms	WB, IHC(P)	ABT283
Anti-CCT4, clone EPR8494(B), rabbit monoclonal	Rabbit	Hu, Rt	WB	MABT466
Anti-CD168, clone EPR4054, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABT468
 Anti-Connexin 45, near CT, cytoplasmic, clone 8A11.2 (Ascites Free)	Mouse	Hu, Guinea Pig, Rt, Rabbit	WB, IC, IF, IHC	MAB3100-C
 Anti-Desmoglein-3, clone 5G11	Mouse	Hu	IHC(P)	MABT335
Anti-DSC3, clone EPR7486, rabbit monoclonal	Rabbit	Hu	WB, FC	MABT469
Anti-DSG2, clone EPR6767(B), rabbit monoclonal	Rabbit	Hu	WB, FC	MABT467
Anti-DSG3, clone EPR7420, rabbit monoclonal	Rabbit	Hu	WB	MABT470
 Anti-EML4	Rabbit	Hu	WB, IC	ABT315
Anti-Galectin-4	Rabbit	Hu	WB, IHC	ABT242
Anti-Galectin-7	Rabbit	Hu	WB, IHC	ABT277
Anti-GPVI, clone EPR8347, rabbit monoclonal	Rabbit	Hu	WB	MABT473
Anti-Integrin β 1, clone A1IB2 (Azide Free)	Rat	Hu	WB, IC, AA, IP, IHC	MABT409
Anti-LTBP-3	Rabbit	Hu, Ms	WB, IHC	ABT316
Anti-MYBPC3, clone EPR3009(2), rabbit monoclonal	Rabbit	Hu, Rt, Ms	WB	MABT463
Anti-Myosin Heavy Chain 11, clone EPR5335, rabbit monoclonal	Rabbit	Hu, Ms	WB, IHC	MABT464
Anti-Myosin Light Chain 4, clone EPR5338, rabbit monoclonal	Rabbit	Hu	WB	MABT465
Anti-Myosin-9/MYH9, clone 3F7.1	Mouse	Hu, Rt	WB, IHC(P)	MABT164
Anti-phospho-Lamellipodin/RAPH1 (Tyr426)	Rabbit	Ms	WB, PIA, IC	ABT279
Anti-phospho-NUMA1 (Thr2055)	Rabbit	Hu	WB, PIA	ABT282
Anti-Rab5A, clone 7D8.1	Mouse	Hu	WB, IHC	MABT182
Milli-Mark™ Anti-CAR-PE, clone RmcB	Mouse	Hu	FC	FCMAB418PE-I
Kits & Assays				
<i>In Vitro</i> Tubulin Polymerization Assay Kit (≥99% Pure Bovine Tubulin)				17-10194

General Reagents

Description	Details	Cat. No.
Small Molecules & Inhibitors		
DAPI Stain	Cells are typically stained at 1 µg/mL.	508741
InSolution™ Vitamin D3, 1 α , 25-Dihydroxy-	A 1 mM (50 µg/112 µL) solution of Vitamin D3, 1 α , 25-Dihydroxy- (Cat. No. 679101) in DMSO.	509721
Puromycin, Dihydrochloride	An aminonucleoside antibiotic that acts as a prokaryotic and eukaryotic protein synthesis inhibitor. Resembles the aminoacyl-adenyl terminus of aminoacyl-tRNA and competes for binding to the A site of the large ribosomal subunit. Its incorporation into a growing polypeptide results in termination of chain elongation and release of the nascent polypeptidyl-puromycin. Induces DNA fragmentation in thymocytes and in human HL-60 leukemia cells. Recommended range for selection of transfected mammalian cells ranges from 1 to 30 µg/mL.	508838
Regacin	An orally bioavailable, non-toxic, thio-thiadiazolamine compound that specifically inhibits the DNA-binding capacity of virulence regulator, RegA (IC ₅₀ = 1.7 µM in <i>E. coli</i> strain MC4100 (kfc-lacZ, pACYC184-regA), by interacting with amino acid residues within a conserved region of the DNA-binding domain, but without affecting RegA dimerization. Interacts with the double helix-turn-helix (HTH) domain that results in a loss of binding affinity of RegA for its DNA targets.	530353

LEGEND

Species: Hu=Human, Ms=Mouse, Rt=Rat, Mky=Monkey,

Applications: FC=Flow Cytometry, IC=Immunocytochemistry, IHC=Immunohistochemistry, IHC(P)=Immunohistochemistry (Paraffin), IF=Immunofluorescence, IP=Immunoprecipitation, WB=Western Blotting, ChIP=Chromatin IP, EIA=Enzyme Immunoassay, MeDIP=Methylated DNA IP, ELISA=Enzyme Immunoassay, DB=Dot Blot, PIA=Peptide Inhibition Assay, CC=Cell Culture, AA=Activity Assay, MPX=Multiplexing, Inhib=Inhibition, Neut=Neutralizing, CH=Cell Harvesting

 For published studies using this new product, visit: www.merckmillipore.com

 For publications on using these small molecules, visit: www.merck4biosciences.com

Inflammation & Immunology

Description	Host	Species Reactivity	Key Applications	Cat. No.
Antibodies				
Anti- IL-27 β , clone EPR5747, rabbit monoclonal	Rabbit	Hu, Rt	WB, FC	MABT461
Anti- STING, clone 41	Rat	Ms	WB, FC	MABF213
Anti-ABCD1 (mouse), clone EPR1362, rabbit monoclonal	Rabbit	Hu, Ms	WB, IHC	MABT458
Anti-AIP1/WD repeat-containing protein 1, clone 13F10	Rat	Ms	WB	MABF264 
Anti-AIRE, clone Mab155	Mouse	Hu	FC, WB, IC	MABF235 
Anti-Bst2, clone EPR5648, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABF201
Anti-CD11b (human/mouse), APC, clone M1/70	Rat	Hu, Ms	IP, IHC, FC, IF	MABF366
Anti-CD11b (human/mouse), APC-Cy7, clone M1/70	Rat	Hu, Ms	IP, IHC, FC, IF	MABF362
Anti-CD11b (human/mouse), PE-Cy5, clone M1/70	Rat	Hu, Ms	IP, IHC, FC, IF	MABF364
Anti-CD11b (human/mouse), PE-Cy7, clone M1/70	Rat	Hu, Ms	IP, IHC, FC, IF	MABF365
Anti-CD11b (human/mouse), PerCP-Cy5.5, clone M1/70	Rat	Hu, Ms	IP, IHC, FC, IF	MABF359
Anti-CD11c (human), clone 3.9	Mouse	Hu	IP, IF, FC	MABF370
Anti-CD11c (human), PE-Cy7, clone 3.9	Mouse	Hu	IP, IF, FC	MABF369
Anti-CD11c (mouse), APC, clone N418	Armenian Hamster	Ms	IP, IHC, IF, FC	MABF371
Anti-CD127 (IL-7Ra) (human), APC, clone R34-34	Mouse	Hu	FC	MABF385
Anti-CD127 (IL-7Ra) (human), PE, clone R34-34	Mouse	Hu	FC	MABF386
Anti-CD127 (IL-7Ra) (mouse), APC, clone A7R34	Rat	Ms	IP, FC, IHC	MABF378
Anti-CD127 (IL-7Ra) (mouse), clone A7R34	Rat	Ms	IP, IHC, IF, FC	MABF384
Anti-CD127 (IL-7Ra) (mouse), FITC, clone A7R34	Rat	Ms	IP, FC, IHC, FC	MABF380
Anti-CD127 (IL-7Ra) (mouse), PE, clone A7R34	Rat	Ms	IP, FC, IHC, FC	MABF381
Anti-CD25 (human), clone BC96	Mouse	Hu	FC	MABF395
Anti-CD27 (human), APC, clone O323	Mouse	Hu	FC	MABF399
Anti-CD27 (human), APC-Cy7, clone O323	Mouse	Hu	FC	MABF400
Anti-CD27 (human), clone O323	Mouse	Hu	FC	MABF403
Anti-CD27 (human), PE, clone O323	Mouse	Hu	FC	MABF401
Anti-CD274 (PD-L1, B7-H1) (mouse), clone 10F9G2	Rat	Ms	FC	MABF405
Anti-CD300A, clone EPR5226, rabbit monoclonal	Rabbit	Hu	WB	MABF203
Anti-CD4 (human), APC, clone OKT4	Mouse	Hu	WB, IP, IC, IF, FC	MABF416
Anti-CD4 (human), clone OKT4	Mouse	Hu	WB, IP, IC, IF, FC	MABF419
Anti-CD4 (human), PE, clone OKT4	Mouse	Hu	WB, IF, FC	MABF417
Anti-CD4 (mouse), clone GK1.5	Rat	Ms	IP, IHC, FC	MABF415
Anti-CD4 (mouse), FITC, clone GK1.5	Rat	Ms	IP, IHC, FC	MABF412
Anti-CD4 (mouse), PE-Cy5, clone GK1.5	Rat	Ms	IP, IHC, FC	MABF743
Anti-CD45.1 (mouse), clone A20	Mouse	Ms	IP, IHC, FC	MABF432
Anti-CD45.2 (mouse), clone 104	Mouse	Ms	IP, FC, IC	MABF441
Anti-CD73, clone EPR6114, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABC668
Anti-CXCL5, clone EPR4450(2), rabbit monoclonal	Rabbit	Hu	WB	MABT460
Anti-Fli-1, clone EPR4645, rabbit monoclonal	Rabbit	Hu, Ms, Rt	WB	MABF195
Anti-GARS, clone EPR7157, rabbit monoclonal	Rabbit	Hu, Rt, Ms	WB, IHC	MABF196
Anti-HLA-DQA1, clone EPR7300, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABF186
Anti-IFN α R1, clone EPR6244, rabbit monoclonal	Rabbit	Hu	WB	MAB5757
Anti-IL-9, clone EPR5735, rabbit monoclonal	Rabbit	Hu	WB	MABT462
Anti-KLRG1 (mouse), clone 2F1	Syrian Hamster	Ms	IP, FC	MABF467
Anti-Ly-6G (Gr-1) (mouse), clone RB6-8C5	Rat	Ms	IHC, FC	MABF474
Anti-PLUNC, clone EPR8381, rabbit monoclonal	Rabbit	Hu	WB, FC	MABF200
Anti-RIG-I, clone 1C3	Mouse	Hu	WB, IP, IC	MABF297 
Anti-S100A8/MRP-8 (Azide Free)	Rabbit	Hu, Ms	WB, IHC, AA	ABF125 
Anti-S100A8/S100A9, clone 5.5	Mouse	Hu	FC, IP, IHC, EIA, WB	MABF291 
Anti-TREM-1, clone 2(1a2)	Mouse	Hu	FC	MABF272
Anti- α -1-Microglobulin, clone EPR5880, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABF192

LEGEND

Species: Hu=Human, Ms=Mouse, Rt=Rat, Mky=Monkey,
Applications: FC=Flow Cytometry, IC=Immunocytochemistry, IHC=Immunohistochemistry, IHC(P)=Immunohistochemistry (Paraffin), IF=Immunofluorescence, IP=Immunoprecipitation, WB=Western Blotting, ChIP=Chromatin IP, EIA=Enzyme Immunoassay, MeDIP=Methylated DNA IP, ELISA=Enzyme Immunoassay, DB=Dot Blot, PIA=Peptide Inhibition Assay, CC=Cell Culture, AA=Activity Assay, MPX=Multiplexing, Inhib=Inhibition, Neut=Neutralizing, CH=Cell Harvesting



For published studies using this new product, visit: www.merckmillipore.com



For publications on using these small molecules, visit: www.merck4biosciences.com

Neuroscience

Description	Host	Species Reactivity	Key Applications	Cat. No.
Antibodies				
Anti-CLN3, clone 2B8.2	Mouse	Ms, Hu	WB, IHC	MABN372
Anti-14-3-3 sigma, clone EPR5872, rabbit monoclonal	Rabbit	Hu	WB	MABN1128
Anti-ABCG2, clone EPR2099(2), rabbit monoclonal	Rabbit	Hu	WB	MABN1108
Anti-ABCG5, clone EPR6203, rabbit monoclonal	Rabbit	Hu	WB	MABN1076
Anti-ADAR, clone EPR7033, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1061
Anti-Adiponectin receptor 1, clone EPR6626, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1077
 Anti-Amyloid β fibrils, clone M64, rabbit monoclonal	Rabbit	Hu	DB, WB, IHC, IP	MABN637
 Anti-Amyloid β fibrils, clone M87, rabbit monoclonal	Rabbit	Hu	DB, WB, IHC	MABN638
 Anti-Amyloid β fibrils, clone M98, rabbit monoclonal	Rabbit	Hu	DB, WB, IHC	MABN640
Anti-Arginyl-tRNA synthetase, clone EPR6298, rabbit monoclonal	Rabbit	Hu	WB, FC	MABN1078
 Anti-ATE1, clone 6F11	Rat	Hu, Ms	WB, IC	MABS436
Anti-ATP7B, clone EPR6794, rabbit monoclonal	Rabbit	Hu	WB, FC	MABN1135
 Anti-Capicua	Rabbit	Hu	WB	ABN446
Anti-Carbonic Anhydrase 9, clone EPR4151(2), rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1093
Anti-CHRD1, clone 10C9.3	Mouse	Hu, Rt	WB, IHC	MABN453
Anti-Corticotropin-Releasing Factor Receptor 2	Rabbit	Hu	WB, IHC	ABN433
Anti-CTP synthase, clone EPR8086(B), rabbit monoclonal	Rabbit	Hu	WB, FC	MABN1062
Anti-CYP27A1, clone EPR7529, rabbit monoclonal	Rabbit	Hu, Ms	WB, IHC	MABN1081
Anti-Cystatin-C, clone EPR4502, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS737
Anti-Cytokeratin-12, clone EPR1609(2), rabbit monoclonal	Rabbit	Rt	WB	MABN1120
Anti-DCAMKL1, clone EPR6085, rabbit monoclonal	Rabbit	Hu, Ms	WB, IHC	MABN1115
Anti-DGL- α	Rabbit	Ms, Hu	WB, IHC	ABN1382
 Anti-Dual oxidase 2, clone Duox S-12	Mouse	Hu	WB, IHC, IC	MABN787
Anti-EAAT3, clone EPR6774(B), rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1129
Anti-EEA1, clone EPR4245, rabbit monoclonal	Rabbit	Hu, Ms, Rt	WB	MABN1106
Anti-ELFN1	Rabbit	Hu	WB, IHC	ABN438
Anti-EPHB3, clone EPR8280, rabbit monoclonal	Rabbit	Hu, Ms	WB, IHC	MABN1065
Anti-Ephrin-A1, clone EPR1785(2), rabbit monoclonal	Rabbit	Hu	WB	MABN1066
Anti-Factor IX, clone EPR6187, rabbit monoclonal	Rabbit	Hu	WB, FC	MABN1137
Anti-Fezf2	Rabbit	Hu, Ms, Rt	WB, IHC(P)	ABN428
Anti-FGF7, clone EPR7261 rabbit monoclonal	Rabbit	Hu	WB	MABN1094
Anti-FKBP5, clone EPR6617, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABC654
Anti-Flotillin-1, clone EPR6041, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1118
Anti-GDF11, clone EPR4567(2), rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1125
Anti-Glud1	Rabbit	Hu, Ms	WB, IHC	ABN443
Anti-GluR1, clone EPR5479, rabbit monoclonal	Rabbit	Hu, Ms, Rt	WB	MABN1116
Anti-GluR4, clone EPR2512(2), rabbit monoclonal	Rabbit	Hu, Rt, Ms	WB, FC	MABN1109
Anti- γ -synuclein (SNCG), clone 3D2.1	Mouse	Hu	WB	MABN314
Anti-HDGF, clone EPR7898, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1069
Anti-Hemopexin, clone EPR5610, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1082
Anti-HES-1	Rabbit	Ms	WB, IHC	ABN1386
Anti-IGF-2R, clone EPR6599, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1083
Anti-Jagged1, clone EPR4290, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1075
Anti-Laforin, clone EP7235, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1050
Anti-LASS1, clone EPR5816(2), rabbit monoclonal	Rabbit	Hu	WB	MABN1085
Anti-LTA4H, clone EPR5712, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1051



Consider a Partnership with Merck Millipore

Bulk – Custom – OEM Services

For information on bulk quantities or other customization of the products in this guide, please visit:

www.merckmillipore.com/partnerships

Contact Us Today!



LEGEND

Species: Hu=Human, Ms=Mouse, Rt=Rat, Mky=Monkey, **Applications:** FC=Flow Cytometry, IC=Immunocytochemistry, IHC=Immunohistochemistry, IHC(P)=Immunohistochemistry (Paraffin), IF=Immunofluorescence, IP=Immunoprecipitation, WB=Western Blotting, ChIP=Chromatin IP, EIA=Enzyme Immunoassay, MeDIP=Methylated DNA IP, ELISA=Enzyme Immunoassay, DB=Dot Blot, PIA=Peptide Inhibition Assay, CC=Cell Culture, AA=Activity Assay, MPX=Multiplexing, Inhib=Inhibition, Neut=Neutralizing, CH=Cell Harvesting

 For published studies using this new product, visit: www.merckmillipore.com

 For publications on using these small molecules, visit: www.merck4biosciences.com

Neuroscience (continued)

Description	Host	Species Reactivity	Key Applications	Cat. No.
Antibodies (continued)				
Anti-MAGL	Rabbit	Ms, Rt, Hu	WB, IHC	ABN1000 
Anti-MYH11, clone EPR5336(B), rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1134
Anti-NEGR1, clone 4H2.1	Mouse	Hu, Rt	WB, IHC(P)	MABN736
Anti-NEGR1, clone EPR8713, rabbit monoclonal	Rabbit	Hu	WB	MABN1072
Anti-NeuroD1	Rabbit	Ms, Rt	WB, ChIP, IHC	ABE991 
Anti-Neuroigin-1, clone 1C9.1	Mouse	Rt, Hu	WB, IHC	MABN742
Anti-Neuronal acetylcholine receptor α -7, clone 6F12.2	Mouse	Hu, Ms	WB, IHC	MABN529
Anti-nNOS/NOS I, clone 2G1.1	Mouse	Hu	WB, IHC(P)	MABN533
Anti-NR2E1, clone EPR4491, rabbit monoclonal	Rabbit	Hu	WB	MABN1073
Anti-Oct-6, clone EP5421, rabbit monoclonal	Rabbit	Hu, Ms	WB	MABN1060
Anti-Pannexin 1, clone EPR5556, rabbit monoclonal	Rabbit	Hu	WB	MABN1117
Anti-phospho-Neurogranin (Ser36)/Neuromodulin (Ser41)	Rabbit	Ms	WB	ABN426
Anti-PI3K Type 3, clone EPR5301, rabbit monoclonal	Rabbit	Hu, Ms, Rt	WB, IHC	MABN1114
Anti-POLG, clone EPR7295, rabbit monoclonal	Rabbit	Hu	WB	MABN1088
Anti-PPID, clone 6A5.1	Mouse	Hu, Rt	WB, IHC(P)	MABN629
Anti-PSMA7, clone EPR5836, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1122
Anti-Thorase, clone 9G7.1	Mouse	Hu	WB	MABN224
Anti-TIMELESS, clone EPR5274(2), rabbit monoclonal	Rabbit	Hu, Ms, Rt	WB, FC	MABN1053
Anti-TrpC3, clone 10H6	Mouse	Ms	WB	MABN748 
Anti-TRPM7, clone EPR4582, rabbit monoclonal	Rabbit	Hu	WB, IF	MABN1113
Anti-USP39, clone EPR8683, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABN1092
Anti-ZNF804A, clone 10F8.2	Mouse	Hu	WB, IHC	MABN706

Description	Details	Cat. No.
Small Molecules & Inhibitors 		
(+)-Absciscic Acid	An isoprenoid plant hormone that acts as a growth regulator affecting leaf and fruit abscission and increases permeability of plant cells to water. Under osmotic stress conditions it alters the osmotic potential of stomatal guard cells, causing them to shrink and stomata to close. Also acts as a proton pump inhibitor. The trans form is shown to potentiate NMDA-gated currents in hippocampal neurons ($EC_{50} = 440 \mu M$).	530339
Adenosine A1 Receptor Antagonist II, PSB-36	A xanthine derivative that acts as a highly potent and selective antagonist of adenosine A1 receptor (A1R; $K_i = 124 \mu M$ for rat A1R and $700 \mu M$ for human A1R). Exhibits much reduced effect on A2A, A2B, and A3 receptors ($K_i = 980, 187, \text{ and } 2300 \text{ nM}$, respectively). Shown to be more potent than DPCPX ($EC_{50} = 120 \mu M$ vs 2.9 nM). Exhibits anti-inflammatory and analgesic effects through a central mechanism. Also reported to modulate insulin release in INS-1 cells.	119148
Adenosine A2A Receptor Antagonist I, ZM 241385	A highly potent, selective, and orally bioavailable non-xanthine adenosine A2A receptor antagonist ($K_i = 800 \mu M$ for human adenosine A2AR stably expressed in HEK-293 cells). Does not exhibit any significant antagonistic activity in A1, A2B ($K_i = 255 \text{ nM}$ and 50 nM , respectively in human adenosine receptors stably expressed in CHO cells) or in A3R ($K_i > 10 \mu M$ in human A3R stably expressed in HEK-293 cells). Shown to have a protective effect against β -amyloid peptide toxicity.	119149
Adenosine A3 Receptor Agonist, 2-Cl-IB-MECA	An adenosine analog that acts as a highly selective agonist of adenosine A3 receptor ($K_i = 330 \mu M, 820 \text{ nM}, 470 \text{ nM}$ for A3, A1 and A2A, respectively). Shown to reduce ischemia reperfusion injury in mice and limit infarct size in isolated rat hearts. Shown to reversibly increase field excitatory postsynaptic potentials in hippocampal slices and exhibits excitatory effects on both evoked and spontaneous epileptiform discharges.	119139

LEGEND

Species: Hu=Human, Ms=Mouse, Rt=Rat, Mky=Monkey,
Applications: FC=Flow Cytometry, IC=Immunocytochemistry, IHC=Immunohistochemistry, IHC(P)=Immunohistochemistry (Paraffin), IF=Immunofluorescence, IP=Immunoprecipitation, WB=Western Blotting, ChIP=Chromatin IP, EIA=Enzyme Immunoassay, MeDIP=Methylated DNA IP, ELISA=Enzyme Immunoassay, DB=Dot Blot, PIA=Peptide Inhibition Assay, CC=Cell Culture, AA=Activity Assay, MPX=Multiplexing, Inhib=Inhibition, Neut=Neutralizing, CH=Cell Harvesting



For published studies using this new product, visit: www.merckmillipore.com



For publications on using these small molecules, visit: www.merck4biosciences.com

Neuroscience (continued)

Description	Details	Cat. No.
Small Molecules & Inhibitors (continued)		
α-Synuclein Blocker, ELN484228	A cell-permeable phenylsulfonamide compound that reversibly binds to pocket I of the monomeric α -synuclein (α -syn) and reverses α -syn-induced impairment of phagocytosis in H4 neuroglioma cells over-expressing wild-type α -syn and microglia isolated from α -syn BAC transgenic animals over-expressing the E46K mutant form of human α -syn (~1–10 μ M). Reduces α -syn-mediated impairment of vesicular dynamics and diminishes α -syn translocation to the synaptic region in rat primary neuronal cultures by 50% (at ~1 μ M) and in cortical cultures in transgenic mice over-expressing human α -syn.	530583
β-Catenin/Tcf Inhibitor IV	A cell-permeable diaminoquinazoline compound that potently inhibits Tcf4-luciferase expression in both 33.13 and 22C11 cells and only minimally affects 5A8 control cells (IC_{50} = 596, 690 and >2984 nM, respectively), and arrests the growth of 33.13, HT29, DLD1 and LoVo colon cancer cells (IC_{50} = 648, 1375, 1739 and 1400 nM, respectively). Shown to alter the gene expression levels of several cyclins, phosphatases and transcription factors and overlap with the siRNA knockdown of β -catenin or Tcf4 profile in HT29 cells.	219333
Benztropine	A brain penetrating azabicyclo[3.2.1]octane derivative with anti-cholinergic and anti-histaminergic properties. Acts as an antagonist of muscarinic M1 and M3 receptors induces robust differentiation of oligodendrocytes precursor cell differentiation (OPC; EC_{50} = 500 nM) and promotes myelination. Reduces the expression of Notch 1 in immature OPC and reduces the levels of cyclin D1 and D2 and c-Fos and c-Jun indicating its inhibitory effect on cell cycle progression.	509890
InSolution™ Calcium-activated Chloride Channel Inhibitor, CaCCinh-A01	A 100 mM (5 mg/144 μ L) sterile-filtered solution of Calcium-activated Chloride Channel Inhibitor, CaCCinh-A01 (Cat. No. 208293) in DMSO.	508628
InSolution™ Wnt Antagonist II, IWP-2	A 10 mM (5 mg/1.07 mL) sterile-filtered solution of Wnt Antagonist II, IWP-2 (Cat. No. 681671) in DMSO.	506072
L-Serine-O-phosphate	A potent agonist for group III mGlu receptor subtype 4, 6, and 8 (EC_{50} = 1–4, 3, and 2 μ M for mGlu4, mGlu6, mGlu8, respectively); but not for subtype 7 (EC_{50} = 160–1200 μ M). Inhibits proliferation and enhances neuronal differentiation in progenitor cells. Widely used to study presynaptic inhibitory modulation of the excitatory glutamatergic transmission at retina and central nervous systems.	509705
Nedd4/Rsp5 Signaling Inducer, NAB2	A cell-permeable N-aryl benzimidazole (NAB) compound that protects against α -syn toxicity in yeast (0.625 to 10 μ M), wt human α -syn-expressing <i>C. elegans</i> dopaminergic neurons (10 μ M), human A53T α -syn-expressing rat DA neurons (0.1 μ M), as well as in Parkinson's disease patients-derived neurons carrying A53T α -syn or an α -syn triplication (5 to 40 μ M) by restoring Nedd4 (mammalian)/Rsp5 (yeast) E3 ligase-dependent trafficking events, reducing α -syn-caused nitrosative and ER stress without affecting cellular α -syn level or Nedd4/Rsp5 ligase activity.	530032
PPADS	A selective P2 purinergic receptor antagonist that block ATP responses at both pre- and post-junctional sites (IC_{50} = 2.5 μ M). Shown to antagonize P2x-purinoreceptor-mediated responses in the rabbit urinary bladder. Acts on P2Y, but not on P2U receptors in rat mesenteric arteries. Induces a gradual decline in ATP-activated current to a steady state.	505761
TSPO Agonist, Ro5-4864	A 4'-chloro derivative of diazepam that lacks affinity for GABA-A receptors, but can serve as a ligand for the peripheral benzodiazepine receptor. Acts as an agonist for the 18 kDa translocator protein (TSPO) on the outer mitochondrial membrane (K_d = 4.4 nM). Diminishes the accumulation of β -amyloid peptides in the CA1 hippocampal region of gonadectomized (GDX) mice and in triple transgenic Alzheimer's disease murine models (3xTgAD).	508578
Windorphen	The racemic mixture of a cell-permeable (4-methoxyphenyl) chloroacrylaldehyde compound whose (Z)-isomer (isomer content 12–15%) acts as a p300-selective histone acetyltransferase (HAT) inhibitor (IC_{50} = 4.2 μ M using racemic mixture with 13% Z-isomer) and selectively disrupts β -catenin association with p300, but not CBP or LEF1/TCF4, exhibiting much reduced potency against KAT5, CBP, MYST4, MYST2 (IC_{50} $\geq$ 38 μ M) and little or no inhibitory efficacy toward GCN5 and PCAF HAT activity (IC_{50} > 100 μ M). A great complement to the selective β -catenin-CBP interaction blocker ICG-001 (Cat. no. 504712). (E)-isomer is available separately (Cat. no. 509166) as negative control.	509164

LEGEND

Species: Hu=Human, Ms=Mouse, Rt=Rat, Mky=Monkey,
Applications: FC=Flow Cytometry, IC=Immunocytochemistry, IHC=Immunohistochemistry, IHC(P)=Immunohistochemistry (Paraffin), IF=Immunofluorescence, IP=Immunoprecipitation, WB=Western Blotting, ChIP=Chromatin IP, EIA=Enzyme Immunoassay, MeDIP=Methylated DNA IP, ELISA=Enzyme Immunoassay, DB=Dot Blot, PIA=Peptide Inhibition Assay, CC=Cell Culture, AA=Activity Assay, MPX=Multiplexing, Inhib=Inhibition, Neut=Neutralizing, CH=Cell Harvesting

 For published studies using this new product, visit: www.merckmillipore.com

 For publications on using these small molecules, visit: www.merck4biosciences.com

Signaling

Description	Host	Species Reactivity	Key Applications	Cat. No.
Antibodies				
Anti-ACAT-2	Rabbit	Hu, Mky	WB, IHC	ABS988 
Anti-ADK, clone EPR8876, rabbit monoclonal	Rabbit	Hu	WB	MABS386
Anti-AHR	Rabbit	Hu	WB, IHC(P)	ABS522
Anti-Angiomotin	Rabbit	Hu, Ms, Rt	WB, IC	ABS1024 
Anti-Arginase-1	Chicken	Ms, Rt, Guinea Pig, Hu	WB, IHC	ABS535
Anti-Aromatase, clone EPR4534(2), rabbit monoclonal	Rabbit	Hu	WB, FC	MABS750
Anti-ATE1, clone 6F11	Rat	Hu, Ms	WB, IC	MABS436 
Anti-Calmodulin, clone EPR5028, rabbit monoclonal	Rabbit	Hu, Ms	WB, FC	MABS749
Anti-CDK7, clone EP4324, rabbit monoclonal	Rabbit	Hu	WB	MABS745
Anti-COP5, clone EPR1350, rabbit monoclonal	Rabbit	Hu, Ms, Rt	WB	MABS746
Anti-Cystatin-C, clone EPR4502, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS737
Anti-Cytochrome P450 3A4, clone EPR6202, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS756
Anti-DDR1	Rabbit	Hu	WB	ABS505
Anti-DHFR, clone EPR5284, rabbit monoclonal	Rabbit	Hu	WB	MABS751
Anti-E6AP	Rabbit	Hu, Ms, Rt	WB, IP	ABS989 
Anti-EPHB3, clone EPR8280, rabbit monoclonal	Rabbit	Hu, Ms	WB, IHC	MABN1065
Anti-Ephrin-A1, clone EPR1785(2), rabbit monoclonal	Rabbit	Hu	WB	MABN1066
Anti-ERβ, clone EPR3778, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS732
Anti-FABP2, clone EPR7137, rabbit monoclonal	Rabbit	Hu	WB	MABS401
Anti-FHL1, clone EPR7520, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS405
Anti-FRA-1, clone EP4711, rabbit monoclonal	Rabbit	Hu	WB, IF	MABS744
Anti-GGT1/2/3, clone EPR5288, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS735
Anti-GLEPP1, extracellular domain, clone 1B4	Mouse	Rt	IHC, WB	MABS455 
Anti-GPR56, C-terminal	Rabbit	Hu, Rt	WB, IP, IC	ABS1028 
Anti-GRK1, clone EPR2039(2), rabbit monoclonal	Rabbit	Hu	WB	MABS403
Anti-Hemopexin, clone EPR5609, rabbit monoclonal	Rabbit	Hu	WB	MABS743
Anti-ITPA, clone EPR8780, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS393
Anti-ITPR1, clone EPR4536, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS733
Anti-Linear Polyubiquitin	Rabbit	Hu	WB	ABS175 
Anti-LSP1, clone EPR5997, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS741
Anti-LTBP-1	Rabbit	Hu, Rt	WB, IC	ABS502 
Anti-MAT1A, clone EPR7938, rabbit monoclonal	Rabbit	Hu	WB, FC	MABS394
Anti-NAT1, clone EPR3221(2), rabbit monoclonal	Rabbit	Hu	WB, IF	MABS404
Anti-NPC1, clone EPR5209, rabbit monoclonal	Rabbit	Hu, Rt, Ms	WB, IHC	MABS739
Anti-phospho-B-Raf (Ser729), clone EPR2207, rabbit monoclonal	Rabbit	Rt	WB	MABS748
Anti-phospho-JNK1/JNK2/JNK3 (Thr183/Thr183/Thr221), clone EPR5693, rabbit monoclonal	Rabbit	Hu, Ms	WB, IHC, FC	MABS740
Anti-phospho-PKCB II (Thr641)	Rabbit	Hu	WB	07-873-I
Anti-PIAS2, clone EPR2582(2), rabbit monoclonal	Rabbit	Hu	WB	MABS406
Anti-PMP70, clone EPR5614, rabbit monoclonal	Rabbit	Hu	WB, FC	MABS738
Anti-PON1, clone EPR2893, rabbit monoclonal	Rabbit	Hu	WB	MABS731
Anti-Rab32	Rabbit	Ms	WB, IP	ABC520 
Anti-Rab5A, clone 7D8.1	Mouse	Hu	WB, IHC	MABT182
Anti-RAC3, clone EPR6679(B), rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS752
Anti-RBP4, clone EPR5878, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS747
Anti-RBX1, clone EPR6849(B), rabbit monoclonal	Rabbit	Hu	WB	MABS753
Anti-RSK4	Rabbit	Rt	WB, IP	ABS521
Anti-Sphk2, C-term	Rabbit	Ms	WB, IP, IC	ABS527 
Anti-STAM-binding protein, clone 4D12.2	Mouse	Hu	WB, IC	MABS165
Anti-StAR, clone EP7639, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS400
Anti-TPO, clone EPR5379, rabbit monoclonal	Rabbit	Hu	WB	MABS736
Anti-WBP2, clone 4C8H10	Mouse	Hu	WB, IP, IC, IHC	MABS441

LEGEND

Species: Hu=Human, Ms=Mouse, Rt=Rat, Mky=Monkey,
Applications: FC=Flow Cytometry, IC=Immunocytochemistry, IHC=Immunohistochemistry, IHC(P)=Immunohistochemistry (Paraffin), IF=Immunofluorescence, IP=Immunoprecipitation, WB=Western Blotting, ChIP=Chromatin IP, EIA=Enzyme Immunoassay, MeDIP=Methylated DNA IP, ELISA=Enzyme Immunoassay, DB=Dot Blot, PIA=Peptide Inhibition Assay, CC=Cell Culture, AA=Activity Assay, MPX=Multiplexing, Inhib=Inhibition, Neut=Neutralizing, CH=Cell Harvesting

 For published studies using this new product, visit: www.merckmillipore.com

 For publications on using these small molecules, visit: www.merck4biosciences.com

Signaling (continued)

Description	Details	Cat. No.
Small Molecules & Inhibitors (continued)		
(+)-Abscisic Acid	An isoprenoid plant hormone that acts as a growth regulator affecting leaf and fruit abscission and increases permeability of plant cells to water. Under osmotic stress conditions it alters the osmotic potential of stomatal guard cells, causing them to shrink and stomata to close. Also acts as a proton pump inhibitor. The trans form is shown to potentiate NMDA-gated currents in hippocampal neurons ($EC_{50} = 440 \mu M$).	530339
ATGL Inhibitor, Atglistatin	A cell-permeable biphenyldimethyl urea compound that inhibits adipose triglyceride lipase (ATGL) activity ($IC_{50} = 700 nM$; [Substrate] = [Triolein] = $165 \mu M$) in a substrate-competitive ($K_i = 355 nM$) and highly selective manner. Shown to effectively suppress FA/glycerol productions from adipocytes ($IC_{max} = 50$ to $100 \mu M$ in 3T3-L1-differentiated adipocytes or primary murine WAT cultures) <i>in vitro</i> and in blood of mice <i>in vivo</i> via either oral or intraperitoneal administration ($ED_{max} = 200 \mu mol/kg$) with no significant cytotoxicity up to $50 \mu M$ in AML-12 murine hepatocyte cultures.	530151
BDK Inhibitor II, (S)-CPP	A cell-permeable chlorophenylpropionate compound that is superior to its structural analog 4PB (Cat. No. 567616) as an inhibitor against mitochondrial branched-chain α -ketoacid dehydrogenase complex (BCKDC) regulatory kinase BDK (BCKD kinase; $IC_{50} = 6.3$ vs. $53.1 \mu M$) due to much optimized affinity toward the BDK N-terminal allosteric site ($K_d = 2.4$ vs. $5.7 \mu M$), effectively blocking BDK substrate access by preventing BDK interaction with the homo-24-meric dihydrolipoyltransferase BCKDC E2 component.	505602
BMP Inhibitor IV, LDN-193189	A cell-permeable pyrazoloquinoline analog of Dorsomorphin (AMPK Inhibitor, Compound C, Cat. No. 480066) that potently inhibits the transcriptional activity of BMP type 1 receptors ALK 2 and 3 ($IC_{50} = 5$ and $30 nM$, respectively) with minimal effect on activin and the TGF- β type 1 receptors ALK4, 5, and 7 ($IC_{50} \sim 500 nM$). At higher concentration, it inhibits the activity of ALK6 ($IC_{50} = 150 nM$). Also reported to block BMP-4- induced phosphorylation of SMAD 1, 5, and 8 ($IC_{50} \sim 5 nM$) in murine pulmonary artery smooth muscle cells. Shown to be about 200-fold more potent when compared to Dorsomorphin. Directs differentiation of pluripotent stem cells toward a specified lineage.	509882
InSolution™ APT1 Inhibitor, palmostatin B	A 50 mM (2 mg/106.23 μL) sterile-filtered solution of APT1 Inhibitor, palmostatin B (Cat. No. 178501) in DMSO.	508738
InSolution™ Cycloheximide, High Purity	A 300 mM (100 mg/1.185 mL) sterile-filtered solution of Cycloheximide, High Purity (Cat. No. 239764) in DMSO.	508739
InSolution™ Etomoxir	A 50 mM (2 mg/118 μL) solution of Etomoxir (Cat. No. 236020) in H_2O .	509455
InSolution™ Leupeptin, Hemisulfate, Microbial	The recommended working range is 10-100 μM for most applications.	509281
InSolution™ PPACK, 2HCl	A 25 mM (5 mg/357 μL) sterile-filtered solution of PPACK, 2HCl (Cat. No. 520222) in H_2O .	508773
InSolution™ TAPI-2	A 10 mM (1 mg/241 μL) sterile-filtered solution of TAPI-2 (Cat. No. 579052) in H_2O .	509612
InSolution™ Y-27632	A 10 mM (2 mg/591 μL) sterile-filtered solution of Y-27632 (Cat. No. 688000) in H_2O .	509228

Stem Cells

Description	Host	Species Reactivity	Key Applications	Cat. No.
Antibodies				
Anti-BMP-4	Rabbit	Hu	WB, IHC(P)	ABD83
Anti-BMP4, clone EPR6211, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABD188
Anti-CD73, clone AA60-E3-3, Alexa Fluor® 488 conjugate	Mouse	Hu	IC	MABD122A4
Anti-CD73, clone AA60-E3-3, Cy3 Conjugate	Mouse	Hu	IC	MABD122C3
Anti-CDX4, clone EPR5760, rabbit monoclonal	Rabbit	Hu, Ms, Rt	WB	MABD178
Anti-DAX-1, clone 2F4	Mouse	Hu	WB, IC, IHC	MABD398
Anti-Eotaxin, clone EPR5825, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABD185
Anti-ESRRB	Rabbit	Ms	WB, IC	ABD101
Anti-FGF Receptor 3, clone EPR2304(3), rabbit monoclonal	Rabbit	Hu	WB, FC	MABD180
Anti-FOXO4, clone EPR2150(3), rabbit monoclonal	Rabbit	Hu	WB, IHC	MABD181



Consider a Partnership with Merck Millipore

Bulk – Custom – OEM Services

For information on bulk quantities or other customization of the products in this guide, please visit:

www.merckmillipore.com/partnerships

Contact Us Today!



LEGEND

Species: Hu=Human, Ms=Mouse, Rt=Rat, Mky=Monkey, **Applications:** FC=Flow Cytometry, IC=Immunocytochemistry, IHC=Immunohistochemistry, IHC(P)=Immunohistochemistry (Paraffin), IF=Immunofluorescence, IP=Immunoprecipitation, WB=Western Blotting, ChIP=Chromatin IP, EIA=Enzyme Immunoassay, MeDIP=Methylated DNA IP, ELISA=Enzyme Immunoassay, DB=Dot Blot, PIA=Peptide Inhibition Assay, CC=Cell Culture, AA=Activity Assay, MPX=Multiplexing, Inhib=Inhibition, Neut=Neutralizing, CH=Cell Harvesting

For published studies using this new product, visit: www.merckmillipore.com

For publications on using these small molecules, visit: www.merck4biosciences.com

Stem Cells (continued)

Description	Host	Species Reactivity	Key Applications	Cat. No.
Antibodies (continued)				
Anti-Frizzled-6, clone EPR7279, rabbit monoclonal	Rabbit	Hu	WB	MABD176
Anti-Laminin Receptor, clone EPR8469, rabbit monoclonal	Rabbit	Hu, Ms, Rt	WB, IHC	MABD162
Anti-LHX3, clone EPR3344(2), rabbit monoclonal	Rabbit	Hu	WB, FC	MABD174
Anti-Mouse Nanog, N-Terminus	Rabbit	Ms	WB, IC	ABD88
Anti-NOTCH 3/N3ECD, clone 1E4	Mouse	Hu	WB, IC, Electron Microscopy	MABC594 
Anti-Oct-4	Rabbit	Ms, Hu	WB, IC, IP	ABE422
Anti-Osteoglycin, clone EPR6963, rabbit monoclonal	Rabbit	Hu	WB	MABD177
Anti-Pleiotrophin, clone EP3040(2), rabbit monoclonal	Rabbit	Hu	WB	MABD179
Anti-PRDM14	Rabbit	Hu	WB, ChIP, ChIP-seq	ABD121 
Anti-RANKL, clone EPR4999, rabbit monoclonal	Rabbit	Hu	WB	MABD183
Anti-Smad7, clone EPR622, rabbit monoclonal	Rabbit	Hu	WB	MABD187
Anti-SnoN	Rabbit	Hu	WB, IC, IHC	ABD104
Anti-TFE3	Rabbit	Hu	WB, IC	ABD125 
Anti-Wnt-11	Rabbit	Hu	WB	ABD105
Culture Media & Reagents				
FibroGRO™ Xeno-Free Human Fibroblast Expansion Medium		Hu	CC	SCM044

Description	Details	Cat. No.
Small Molecules & Inhibitors 		
BMI-1 Expression Inhibitor, PTC-209	A cell-permeable imidazopyrimidinyl-thiazolamine compound that effectively downregulates cellular BMI-1 protein level by inhibiting BMI-1 transcription via a yet unidentified mechanism, thereby reducing BMI-1-dependent RING1A E3 ligase activity and RING1A-mediated H2A ubiquitination (uH2A)/epigenetic regulations. Shown to exhibit antiproliferation activity against human colon cancer cells via G0 cell cycle arrest and apoptosis induction with a greater drug impact on self-renewing cancer-initiating cells (CICs; cancer stem cells).	530154
PDX1 Inducer, BRD7552	A cell permeable, glucose-derived diversity oriented synthesized compound that acts as reversible inducer of PDX1 expression in human PANC-1 cells, primary human islets, and human duct derived cells in a dose- and time-dependent manner with maximal effect observed on day 9 at 5 microM. Its action is dependent on the presence of FOXA2 in cells as FOXA2 knockdown cells treated with this compound do not exhibit any effect on PDX1 expression.	509664
StemSelect® Compound E	Notch signaling suppressor.	530509
StemSelect® PD 0332991	A cell-permeable, orally available and brain permeant, non-toxic pyridopyrimidinone compound that acts as a potent, selective, reversible, ATP competitive inhibitor of Cdk4 and Cdk6 (IC ₅₀ = 11, 9, and 15 nM for Cdk4/D1, Cdk4/D3 and Cdk6/D2, respectively). Hence, it reduces retinoblastoma protein phosphorylation at Ser780/Ser795 (IC ₅₀ = 66 nM in MDA-435 cells) and arrests cell cycle at G1 phase. Acts as a cytostatic agent, but does induce apoptotic cell death when used alone. However, it potentiates the cytotoxicity of dexamethasone (Cat. No. 265005), bortezomib (Cat. No. 504314), and tamoxifen (Cat. No. 579000) in estrogen receptor (ER)-positive cell lines.	530487

-  For published studies using this new product, visit: www.merckmillipore.com
-  For publications on using these small molecules, visit: www.merck4biosciences.com

LEGEND

Species: Hu=Human, Ms=Mouse, Rt=Rat, Mky=Monkey,

Applications: FC=Flow Cytometry, IC=Immunocytochemistry, IHC=Immunohistochemistry, IHC(P)=Immunohistochemistry (Paraffin), IF=Immunofluorescence, IP=Immunoprecipitation, WB=Western Blotting, ChIP=Chromatin IP, EIA=Enzyme Immunoassay, MeDIP=Methylated DNA IP, ELISA=Enzyme Immunoassay, DB=Dot Blot, PIA=Peptide Inhibition Assay, CC=Cell Culture, AA=Activity Assay, MPX=Multiplexing, Inhib=Inhibition, Neut=Neutralizing, CH=Cell Harvesting

Metabolism

Description	Host	Species Reactivity	Key Applications	Cat. No.
Antibodies				
Anti-Cytochrome P450 3A4, clone EPR6202, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS756
Anti-G6PD, clone EPR6291, rabbit monoclonal	Rabbit	Hu	WB, FC	MABS742
Anti-GFAT1, clone EPR4854, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS402
Anti-IGF2	Rabbit	Hu	WB	ABC504
Anti-ITPA, clone EPR8780, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS393
Anti-PNLIP, clone EPR6276, rabbit monoclonal	Rabbit	Hu	WB, IHC	MABS396

Description	Details	Cat. No.
Small Molecules & Inhibitors		
Transglutaminase 2 Inhibitor, ZDON	A cell-permeable, peptide-based (Z- QVPL) irreversible inhibitor of transglutaminase 2 (TG2) (IC_{50} = 150 nM for recombinant TG2) that acts by reacting with the active site cysteine of TG2. Exhibits far less potency against TG1 and TG3. Shown to significantly increase PGC-1 α and cytochrome c mRNA levels in Q7 and Q111 cells (~50 mM). Exhibits protective effect in cells exposed to 3-nitropropionic acid and NMDA, however, it does not directly affect mitochondrial bioenergetics.	616467

LEGEND

Species: Hu=Human, Ms=Mouse, Rt=Rat, Mky=Monkey,
Applications: FC=Flow Cytometry, IC=Immunocytochemistry, IHC=Immunohistochemistry, IHC(P)=Immunohistochemistry (Paraffin), IF=Immunofluorescence, IP=Immunoprecipitation, WB=Western Blotting, ChIP=Chromatin IP, EIA=Enzyme Immunoassay, MeDIP=Methylated DNA IP, ELISA=Enzyme Immunoassay, DB=Dot Blot, PIA=Peptide Inhibition Assay, CC=Cell Culture, AA=Activity Assay, MPX=Multiplexing, Inhib=Inhibition, Neut=Neutralizing, CH=Cell Harvesting

For published studies using this new product, visit: www.merckmillipore.com

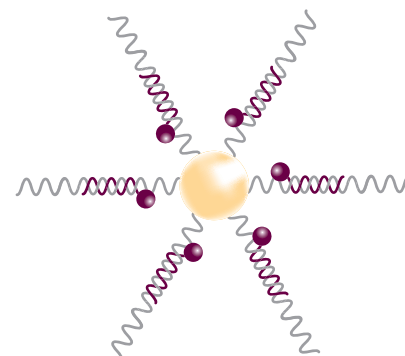
For publications on using these small molecules, visit: www.merck4biosciences.com

SmartFlare™ RNA Detection Probes– Detect miRNA in LIVE Cells!

Effortlessly detect and quantify RNA in LIVE cells using the platform of your choice—then continue using those same, unperturbed cells for downstream analyses!

We have a wide array of SmartFlare™ probes for key targets in cancer research. For more information, including application notes and demo videos, please visit:

www.merckmillipore.com/SmartFlare



SmartFlare™ Probes – Live Cell RNA Detection

Description	Cat. No.	Description	Cat. No.	Description	Cat. No.
ABCB1; Human, Cy5 RNA Detection Probe	SF-2394	ASCL1; Human, Cy3 RNA Detection Probe	SF-2968	CA1; Human, Cy3 RNA Detection Probe	SF-2981
ABHD6; Human, Cy5 RNA Detection Probe	SF-3244	ATF6; Human, Cy5 RNA Detection Probe	SF-2970	CA1; Human, Cy5 RNA Detection Probe	SF-2980
ACC1; Human, Cy5 RNA Detection Probe	SF-2950	ATG12; Human, Cy5 RNA Detection Probe	SF-2972	CA125; Human, Cy3 RNA Detection Probe	SF-2409
ACT1; Human, Cy5 RNA Detection Probe	SF-3246	ATGL; Human, Cy5 RNA Detection Probe	SF-2974	CA2; Human, Cy5 RNA Detection Probe	SF-2982
ADD1; Human, Cy5 RNA Detection Probe	SF-2954	ATRIP; Human, Cy3 RNA Detection Probe	SF-3242	CALM1; Human, Cy3 RNA Detection Probe	SF-2985
AGT; Human, Cy5 RNA Detection Probe	SF-2956	BAD; Human, Cy5 RNA Detection Probe	SF-2406	CALM1; Human, Cy5 RNA Detection Probe	SF-2984
AGTR1; Human, Cy3 RNA Detection Probe	SF-2694	BAI3; Human, Cy3 RNA Detection Probe	SF-1941	CAPN10; Human, Cy5 RNA Detection Probe	SF-2986
AKAP1; Human, Cy5 RNA Detection Probe	SF-2958	BAP1; Human, Cy3 RNA Detection Probe	SF-1943	CB1; Human, Cy3 RNA Detection Probe	SF-2718
AMOT; Human, Cy3 RNA Detection Probe	SF-2698	BRCA1; Human, Cy5 RNA Detection Probe	SF-2701	CB1; Mouse, Cy5 RNA Detection Probe	SF-2719
AMPK; Human, Cy5 RNA Detection Probe	SF-2960	BRCA2; Human, Cy3 RNA Detection Probe	SF-2704	CBL; Human, Cy3 RNA Detection Probe	SF-1353
ANGPTL4; Human, Cy5 RNA Detection Probe	SF-2962	BRD1; Mouse, Cy5 RNA Detection Probe	SF-2707	CCND1; Human, Cy5 RNA Detection Probe	SF-2725
APOC3; Human, Cy5 RNA Detection Probe	SF-2964	BTG2; Human, Cy3 RNA Detection Probe	SF-2979	CDC25A; Human, Cy5 RNA Detection Probe	SF-2727
APP; Human, Cy3 RNA Detection Probe	SF-1140	BTG2; Human, Cy5 RNA Detection Probe	SF-2978	CDH10; Human, Cy3 RNA Detection Probe	SF-2991
ARG1; Human, Cy5 RNA Detection Probe	SF-2404	C1QB; Human, Cy3 RNA Detection Probe	SF-2712	CDH10; Human, Cy5 RNA Detection Probe	SF-2990
ASAHI; Human, Cy5 RNA Detection Probe	SF-2966	C1QC; Human, Cy3 RNA Detection Probe	SF-2714	CDH11; Human, Cy3 RNA Detection Probe	SF-1365

For a complete listing, please visit: www.merckmillipore.com/SmartFlare

Positively the best place for your antibody search and purchase!

www.merckmillipore.com/antibodies

Rely on the **COMBINED EXPERTISE** of Chemicon® and Upstate® & our 100% Antibody Performance Guarantee.

Find information on **BULK QUANTITIES, CUSTOM FORMULATIONS OR DOCUMENTATION** or OEM strategies here.

Find the latest antibodies & assays

Access content focused on **KEY RESEARCH AREAS** with links to the most updated research and product literature.

SEARCH FOR ANTIBODIES BY KEYWORD, gene symbol, Entrez gene number, or UniProt number, then search using a number of filters.

Our **ANTIBODIES** are the highest quality and are validated against specific applications like Western blot, flow cytometry, quantitative cell imaging (HCA) and more. See why our **ANTIBODIES** are guaranteed!

To place an order or receive technical assistance

In Europe, please call Customer Service:

France: 0825 045 645

Germany: 069 86798021

Italy: 848 845 645

Spain: 901 516 645 Option 1

Switzerland: 0848 645 645

United Kingdom: 0870 900 4645

For other countries across Europe, please call:

+44 (0) 115 943 0840

Or visit: www.merckmillipore.com/offices

For Technical Service visit: www.merckmillipore.com/techservice



www.merckmillipore.com

PluriSTEM, Magna Nuclear RIP, EZ Magna Nuclear RIP, ChIPab+, InSolution, Reput(Ab)le, and SmartFlare are trademarks of Merck KGaA, Darmstadt, Germany.

Merck Millipore, the M logo, Chemicon, Upstate, StemSelect, and Calbiochem are registered trademarks of Merck KGaA, Darmstadt, Germany.

All trademarks belonging to third parties are the properties of their respective owners.

Lit No. PR3307ENEU BS-GEN-14-10292 Printed in the USA. 06/2014 © 2014 EMD Millipore Corporation, Billerica, MA USA. All rights reserved.