

biotechne®

INDUSTRY-LEADING RESEARCH TOOLS FOR
NEUROSCIENCE

LIFE SCIENCE BRANDS

R&D SYSTEMS

NOVUS
BIOLOGICALS

TOCRIS

protein **simple**

Bio-Techne offers a broad range of high-quality products for studying all areas of neuroscience, from neural stem cells to neurodegenerative diseases. This product guide presents innovative research tools that can help propel your research to the next level.

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PROTEINS

ANTIBODIES

ELISAs

MULTIANALYTE

SMALL MOLECULES

NEURAL STEM CELLS



Our Brands

The Bio-Techne brands and product lines are some of the most referenced in the life sciences industry and include R&D Systems, Novus Biologicals, Tocris Bioscience, and ProteinSimple. We have brought these brands together as Bio-Techne to be a stronger scientific partner to help you attain your research goals. Our vast product range includes bioactive proteins, application-qualified antibodies, Quantikine® ELISAs, Luminex® Assays, and small molecule activators and inhibitors.

LIFE SCIENCE BRANDS



Researchers trust R&D Systems as the most referenced supplier of bioactive proteins and immunoassays in the industry. R&D Systems manufactures over 13,000 primary antibodies and produces many other products relevant for neuroscience research including Luminex® assays, and reagents for culturing and investigating neural stem cells.



Novus Biologicals licenses, manufactures, and markets antibodies to over 20,000 unique targets to support a wide array of neuroscience research areas. Novus is built on honesty, collaboration, and strong relationships and continues to provide quality tools that accelerate research. Every product is backed by our 100% guarantee.



Tocris Bioscience is the leading supplier of high performance tools for neuroscience research. The Tocris range of small molecules and peptides includes novel and exclusive receptor ligands, ion channel modulators, enzyme inhibitors, caged compounds, fluorescent probes, and screening libraries.



ProteinSimple develops and commercializes proprietary systems and consumables for protein analysis that ultimately help reveal new insights into the true nature of proteins. For neuroscientists who regularly conduct multiple Western blot experiments, ProteinSimple products, including the Simple Western™ and Simple Plex™ platforms, make protein analysis simpler, more quantifiable, and affordable.

PROTEINS

R&D Systems® recombinant and natural proteins are the industry's premiere bioactive proteins. Extensive quality control testing throughout development and manufacturing processes ensures consistent performance that cannot be matched.

Recombinant and Natural Proteins

Guaranteed Performance, Saving You Time and Money

- Every lot is tested before release and again after bottling to ensure high bioactivity and consistent performance.
- We back up our performance specifications with relevant bioassay data.

High Purity for Trusted Results

- Our proteins are highly pure and, at minimum, must meet the lowest endotoxin specification (<0.1 EU/μg) on the market.

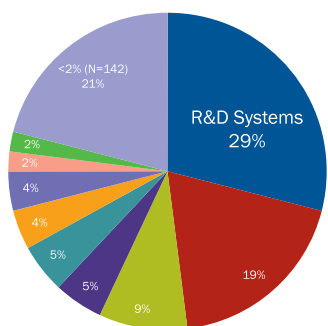
Largest Selection

- We offer over 4,500 recombinant and natural proteins from over 22 species.

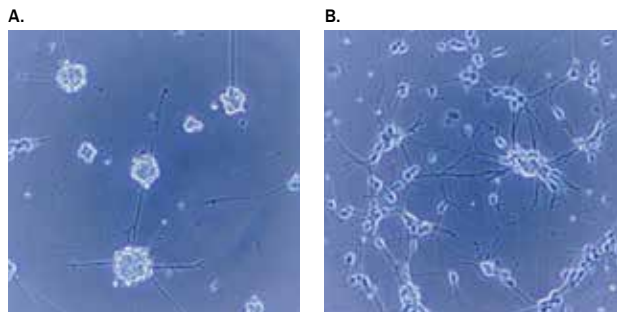
Manufactured by Scientists, for Scientists

- More than 95% of our proteins are manufactured in-house.
- N-terminal amino acid sequences are verified for guaranteed authenticity.

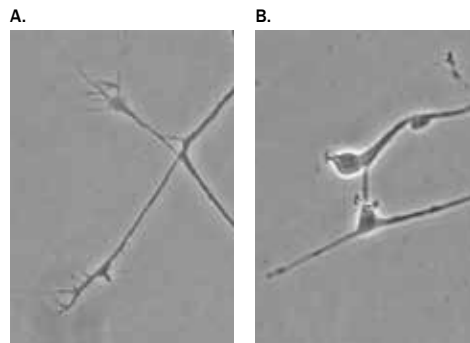
Most Referenced Protein Manufacturer



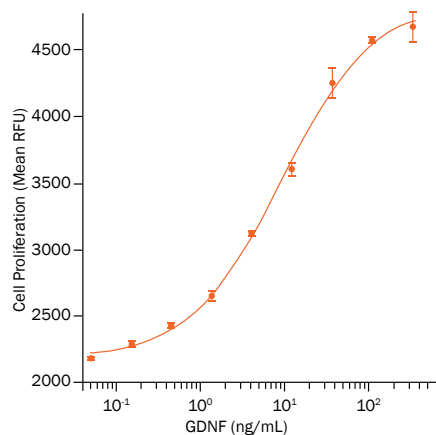
Protein Citations by Vendor. A literature survey of 1,125 manuscripts published in 2013, containing 15,180 product citations from 16 different journals related to cancer, immunology, neuroscience, and stem cells, was conducted to determine the number of citations referencing the use of R&D Systems® proteins compared to the number referencing proteins manufactured by other companies. Of the 1,586 total protein citations identified in the survey, 29% cited the use of our proteins. The percentage of citations attributed to eight other major protein manufacturers is also shown (clockwise from R&D Systems, red-green sections). The final segment in the pie chart (21%, light purple section) includes 333 citations referencing products from 142 different companies. All companies listed under this category had less than 2% of the total number of citations.



Meteorin-like Stimulates Neurite Outgrowth. Embryonic rat cortical neurons (E18) were cultured for 3 days in the absence (A) or presence (B) of Recombinant Mouse Meteorin-like/METRNL (R&D Systems, Catalog # 6679-MN) immobilized on a nitrocellulose-coated microplate. The presence of the Meteorin-like protein significantly enhanced neurite outgrowth.



Semaphorin 3A-Induced Growth Cone Collapse. A fully extended chick dorsal root ganglion growth cone grown in the presence of Recombinant Human β-NGF (Catalog # 256-GF) was untreated (A) or treated (B) with Recombinant Human Semaphorin 3A (Catalog # 1250-S3). Treatment with Semaphorin 3A induced growth cone collapse. All cited reagents are from R&D Systems.



GDNF Induces Proliferation of Human Neuroblastoma Cells. The SH-SY5Y human neuroblastoma cell line was treated with increasing concentrations of Recombinant Human GDNF (Catalog # 212-GD). Cell proliferation was assessed using Resazurin (Catalog # AR002). All cited reagents are from R&D Systems.

Learn more | randsystems.com/Proteins

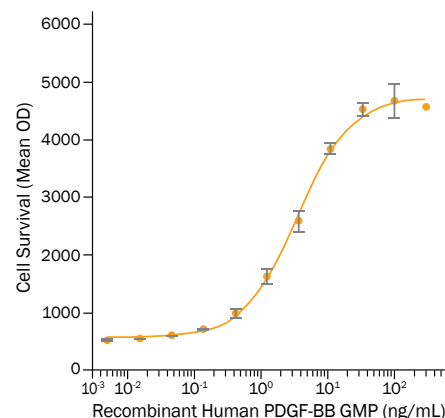
We have further developed our high-quality proteins to support developing research and bioproduction demands.

GMP-Grade Proteins

- Proteins are produced in a certified ISO 9001 facility in compliance with relevant guidelines.*
- They exhibit the same consistent performance that is expected from R&D Systems® recombinant proteins.
- We offer the largest selection of GMP-Grade proteins, including many that are available exclusively from R&D Systems.

Learn more | randsystems.com/GMP

*Manufactured in compliance of the applicable sections of World Health Organization TRS, No 822, 1992 Annex 1, Good Manufacturing Practices for biological products; USP Chapter 1043, Ancillary Materials for Cell, Gene, and Tissue-Engineered Products, and USP Chapter 92, Cytokines used in Cell Therapy Manufacturing.

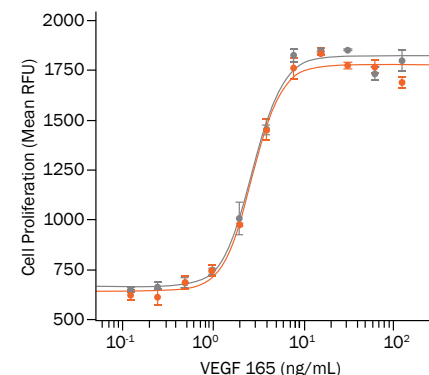


Bioactivity of GMP-Grade Recombinant Human PDGF-BB. GMP-Grade Recombinant Human PDGF-BB (Catalog # 220-GMP) enhances survival of rat embryonic (E16-E18) cortical neurons. Cell survival was assessed using Resazurin (Catalog # AR002). All cited reagents are from R&D Systems.

Animal-Free™ Recombinant Proteins

- Proteins are manufactured in a laboratory exclusively dedicated to the production and purification of recombinant proteins under animal-free conditions.
- Animal Component-Free Process (ACFP) recombinant proteins, which are expressed in an animal-free certified Sf 9 insect cell line using dedicated animal-free raw materials and labware, are also available.
- Animal-Free™ and ACFP recombinant proteins exhibit the same biological activities as our conventionally manufactured recombinant proteins.

Learn more | randsystems.com/AnimalFree



ACFP and Conventionally Manufactured Human VEGF 165 Exhibit the Same Bioactivity. Both ACFP Recombinant Human VEGF 165 (Catalog # ACFP293; gray) and conventionally manufactured Recombinant Human VEGF 165 (Catalog # 293-VE; orange) stimulate the concentration-dependent proliferation of human umbilical vein endothelial cells as measured using Resazurin (Catalog # AR002). All cited reagents are from R&D Systems.

ProDots™ Proteins

- Our industry-leading bioactive proteins are packaged into easy-to-use lyophilized balls that can be rolled directly into cell culture media.
- Save time and ensure maximum recovery of your purchased protein by simply dropping the protein ball directly into your cell culture medium.

Learn more | randsystems.com/ProDots



SELECT PROTEINS

Molecule	Species	Catalog #	Source
ACE	H	929-ZN	NSO
ACE	M	1513-ZN	NSO
ACE-2	H	933-ZN	NSO
ACE-2	M	3437-ZN	CHO
Acetylcholinesterase	H	7574-CE	CHO
Acetylcholinesterase	M	5518-CE	NSO
Activin A	H, M, R	338-AC	CHO
ADAM8	H	1031-AD	NSO
ADAM9	H	939-AD	NSO
ADAM9	M	949-AD	Sf 21
ADAM10	H	936-AD	Sf 21
ADAM10	M	946-AD	Sf 21
ADAM12	H	4416-AD	CHO
ADAMTS1	H	2197-AD	NSO
ADAMTS1	M	5867-AD	CHO
Agrin	H	6624-AG	CHO
Agrin	R	550-AG	Sf 21
AMIGO	H	2565-AM	NSO
AMIGO2	H	2080-AM	CHO
Apolipoprotein E Receptor 2	H	3520-AR	CHO
Apolipoprotein E3	H	4144-AE	<i>E. coli</i>
APP/Protease Nexin II	H	3466-PI	NSO
Artemin	H	2589-AR	<i>E. coli</i>
Artemin	M	1085-AR	<i>E. coli</i>
BACE-1	H	931-AS	NSO
BACE-1	M	2976-AS	NSO
BACE-2	H	4097-AS	NSO
BDNF	H, M, R	248-BD	Sf 21
BMP-1/PCP	H	1927-ZN	NSO
BMP-2	H	355-BM	CHO
BMP-2	H	355-BEC	<i>E. coli</i>
BMP-2, GMP	H	355-GMP	CHO
BMP-2/BMP-6 Heterodimer	H	7145-BP	<i>E. coli</i>
BMP-2/BMP-7 Heterodimer	H	3229-BM	<i>E. coli</i>
BMP-3	H	113-BP	<i>E. coli</i>
BMP-3b/GDF-10	H	1543-BP	<i>E. coli</i>
BMP-4	H	314-BP	NSO
BMP-4	M	5020-BP	CHO
BMP-4/BMP-7 Heterodimer	H	3727-BP	<i>E. coli</i>
BMP-5	H	615-BMC	CHO
BMP-5	M	6176-BM	CHO
BMP-6	H	507-BP	NSO
BMP-6	M	6325-BM	CHO
BMP-7	H	354-BP	CHO
BMP-7	M	5666-BP	CHO
BMP-8a	H	1073-BPC	CHO
BMP-8a	H	1073-BP	<i>E. coli</i>
BMP-8a	M	7540-BP	CHO
BMP-9	H	3209-BP	CHO
BMP-9	M	5566-BP	CHO
BMP-10	H	2926-BP	CHO
BMP-10	M	6038-BP	CHO

Molecule	Species	Catalog #	Source
BMP-10 Propeptide	H	3956-BP	NSO
BMP-15	H	5096-BM	CHO
Calsyntenin-2	H	5480-CL	NSO
Caspase-3	H	707-C3	<i>E. coli</i>
Caspase-7	H	823-C7	<i>E. coli</i>
Caspase-8	H	705-C8	<i>E. coli</i>
Caspr2	H	8207-CR	NSO
Cathepsin D	H	1014-AS	NSO
Cathepsin D	M	1029-AS	NSO
Cerebellin-1	H	6934-CB	CHO
Cerebellin-2	H	7044-CB	CHO
CNTF	H	257-NT	<i>E. coli</i>
CNTF	R	557-NT	<i>E. coli</i>
CNTF R α	H	303-CR	Sf 21
CNTF R α	R	558-CR	Sf 21
Contactin-1	H	904-CN	Sf 21
Contactin-2	H	1714-CN	NSO
Contactin-2	M	4439-CN	NSO
Contactin-3	H	5539-CN	NSO
Contactin-4	H	2205-CN	NSO
Contactin-6	M	5890-CN	CHO
DCC	M	844-DC	Sf 21
Desert Hedgehog (C23II) N-Terminus	H	4777-DH	<i>E. coli</i>
Desert Hedgehog (C23II) N-Terminus	M	733-DH	<i>E. coli</i>
Draxin	M	6149-DR	NSO
DSCAM	H	3666-DS	NSO
ECE-1	H	1784-ZN	NSO
ECE-1	M	5796-ZN	CHO
ECE-2	H	1645-ZN	NSO
EGF	H	236-EG	<i>E. coli</i>
EGF	M	2028-EG	<i>E. coli</i>
EGF, Animal-Free	H	AFL236	<i>E. coli</i>
EGF, GMP	H	236-GMP	<i>E. coli</i>
EGF R/ErbB1	H	1095-ER	NSO
EGF R/ErbB1	H	344-ER	NSO
EGF R/ErbB1	M	1280-ER	NSO
ENPP-6	H	8489-EN	CHO
EphA1	H	7146-A1	HEK293
EphA1	H	638-A1	HEK293
EphA1	M	3034-A1	NSO
EphA2	H	3035-A2	NSO
EphA2	M	639-A2	NSO
EphA3	H	6444-A3	NSO
EphA3	M	640-A3	NSO
EphA4	H	6827-A4	NSO
EphA4	M	641-A4	NSO
EphA5	H	3036-A5	NSO
EphA5	M	3037-A5	NSO
EphA6	H	5606-A6	CHO
EphA6	M	607-A6	NSO
EphA7	H	6756-A7	NSO
EphA7	M	608-A7	NSO

SELECT PROTEINS

Molecule	Species	Catalog #	Source
EphA8	H	6828-A8	NSO
EphA8	M	454-A8	NSO
EphA10	H	5188-EA	NSO
EphB2	H	5189-B2	NSO
EphB2	M	467-B2	NSO
EphB3	H	5667-B3	NSO
EphB3	M	432-B3	NSO
EphB4	H	3038-B4	NSO
EphB4	M	446-B4	NSO
EphB6	H	3384-B6	NSO
Ephrin-A1	H	6417-A1	NSO
Ephrin-A1	M	602-A1	NSO
Ephrin-A2	H	7856-A2	NSO
Ephrin-A2	M	603-A2	NSO
Ephrin-A3	H	359-EA	NSO
Ephrin-A3	M	7395-EA	NSO
Ephrin-A4	H	369-EA	NSO
Ephrin-A4	M	569-A4	NSO
Ephrin-A5	H	374-EA	NSO
Ephrin-A5	M	7396-EA	NSO
Ephrin-B1	H	7654-EB	NSO
Ephrin-B1	M	473-EB	NSO
Ephrin-B2	H	7397-EB	NSO
Ephrin-B2	M	496-EB	NSO
Ephrin-B3	H	7924-EB	NSO
Ephrin-B3	H	395-EB	NSO
Ephrin-B3	M	7655-EB	NSO
Epimorphin/Syntaxin 2	H	2936-EP	<i>E. coli</i>
Epimorphin/Syntaxin 2	M	2568-EP	<i>E. coli</i>
ErbB2/Her2	H	1129-ER	NSO
ErbB3/Her3	H	348-RB	NSO
ErbB3/Her3	M	4518-RB	NSO
ErbB4/Her4	H	1131-ER	NSO
ErbB4/Her4	M	4387-ER	NSO
FGF acidic	B	132-FA	Bovine Brain
FGF acidic (aa 2-155)	H	231-BC	<i>E. coli</i>
FGF acidic (aa 16-155)	H	232-FA	<i>E. coli</i>
FGF basic	M	3139-FB	<i>E. coli</i>
FGF basic	R	3339-FB	<i>E. coli</i>
FGF basic	B	133-FB	Bovine Brain
FGF basic (145 aa)	H	3718-FB	<i>E. coli</i>
FGF basic (145 aa), TC Grade	H	4114-TC	<i>E. coli</i>
FGF basic (146 aa)	H	233-FB	<i>E. coli</i>
FGF basic (146 aa), Animal-Free	H	AFL233	<i>E. coli</i>
FGF basic (146 aa), GMP	H	233-GMP	<i>E. coli</i>
FGF basic (157 aa)	H	234-FSE	<i>E. coli</i>
FGF R1α (IIIb)	H	655-FR	NSO
FGF R1α (IIIc)	H	658-FR	NSO
FGF R1β (IIIb)	H	765-FR	NSO
FGF R1β (IIIc)	H	661-FR	NSO

Molecule	Species	Catalog #	Source
FGF R2α (IIIb)	H	663-FR	<i>Sf</i> 21
FGF R2α (IIIb)	M	5496-MF	NSO
FGF R2α (IIIc)	H	712-FR	NSO
FGF R2β (IIIb)	H	665-FR	<i>Sf</i> 21
FGF R2β (IIIb)	M	708-MF	<i>Sf</i> 21
FGF R2β (IIIc)	H	684-FR	NSO
FGF R2β (IIIc)	M	716-MF	NSO
FGF R3 (IIIb)	H	1264-FR	NSO
FGF R3 (IIIc)	H	766-FR	NSO
FGF R3 (IIIc)	M	710-MF	NSO
FGF R4	H	685-FR	NSO
FGF R4	M	2265-FR	NSO
FGF R5	M	1899-FR	NSO
FGF-3	H	1206-F3	<i>E. coli</i>
FGF-4	H	235-F4	<i>E. coli</i>
FGF-4	M	5846-F4	<i>E. coli</i>
FGF-4 (aa 67-202)	M	7486-F4	<i>E. coli</i>
FGF-4 (aa 71-206)	H	7460-F4	<i>E. coli</i>
FGF-5	H	237-F5	<i>E. coli</i>
FGF-6	H	238-F6	<i>E. coli</i>
FGF-6	M	5750-F6	<i>E. coli</i>
FGF-8a	H	4745-F8	<i>E. coli</i>
FGF-8c	M	424-FC	<i>E. coli</i>
FGF-8f	H	5027-FF	<i>E. coli</i>
FGF-9	H	273-F9	<i>Sf</i> 21
FGF-9	M	7399-F9	<i>E. coli</i>
FGF-10	H	345-FG	<i>E. coli</i>
FGF-10	M	6224-FG	<i>E. coli</i>
FGF-12	H	2246-FG	<i>E. coli</i>
FGF-16	H	1212-FG	<i>E. coli</i>
FGF-17	H	319-FG	<i>E. coli</i>
FGF-17	M	7400-FG	<i>E. coli</i>
FGF-19	H	969-FG	<i>E. coli</i>
FGF-20	H	2547-FG	<i>E. coli</i>
FGF-21	H	2539-FG	<i>E. coli</i>
FGF-21	M	8409-FG	NSO
FGF-22	H	3867-FG	<i>E. coli</i>
FGF-23	H	2604-FG	NSO
FGF-23	M	2629-FG	NSO
FGF-BP	H	1593-FB	NSO
FGL2	M	5257-FL	CHO
Fibronectin	H	4305-FN	NSO
Fibronectin	H	8258-FN	<i>E. coli</i>
Fibronectin, ACPF	H	ACFP4305	<i>Sf</i> 9
Fibronectin Fragment 3	H	3938-FN	NSO
Fibronectin Fragment 4	H	3624-FN	NSO
Frizzled-1	H	5988-FZ	NSO
Frizzled-1	M	1120-FZ	NSO
Frizzled-2	M	1307-FZ	NSO
Frizzled-4	H	5847-FZ	NSO
Frizzled-4	M	194-FZ	NSO
Frizzled-5	H	1617-FZC	CHO

Species Key: H Human, M Mouse, R Rat, B Bovine

Source Key: CHO (Chinese hamster ovary cell line), HEK293 (Human embryonic kidney cell line), NSO (Mouse myeloma cell line), Sf (*Spodoptera frugiperda*)

SELECT PROTEINS

Molecule	Species	Catalog #	Source
Frizzled-5	H	1617-FZ	NSO
Frizzled-7	H	6178-FZ	CHO
Frizzled-7	M	198-FZ	NSO
Frizzled-8	H	6129-FZ	CHO
Frizzled-8	M	112-FZ	NSO
Frizzled-9	M	2440-FZ	CHO
Frizzled-10	H	3459-FZ	NSO
F-Spondin/SPON1	H	3135-SP	NSO
F-Spondin/SPON1	M	7950-SP	NSO
GDF-1	H	6937-GD	CHO
GDF-3	H	5754-G3	CHO
GDF-3	M	958-G3	<i>E. coli</i>
GDF-5/BMP-14	H	8340-G5	<i>E. coli</i>
GDF-5/BMP-14	M	853-G5	<i>E. coli</i>
GDF-6/BMP-13	M	855-G6	<i>E. coli</i>
GDF-7/BMP-12	H	8386-G7	<i>E. coli</i>
GDF-7/BMP-12	M	779-G7	<i>E. coli</i>
GDF-8/Myostatin	H, M, R	788-G8	NSO
GDF-8/Myostatin, GMP	H, M, R	788-GMP	NSO
GDF-8/Myostatin Propeptide	M	1539-PG	NSO
GDF-8/Myostatin Propeptide	M	6986-PG	NSO
GDF-9	M	739-G9	CHO
GDF-11/BMP-11	H, M, R	1958-GD	<i>E. coli</i>
GDF-15/MIC-1	H	957-GD	CHO
GDF-15/MIC-1	H	8146-GD	HEK293
GDNF	H	212-GD	NSO
GFR α -1	H	714-GR	NSO
GFR α -2	H	613-FR	NSO
GFR α -2	M	429-FR	NSO
GFR α -3	H	7269-FR	CHO
GFR α -3	H	670-FR	<i>Sf</i> 21
GFR α -3	M	2645-FR	<i>Sf</i> 21
Glypican 1	H	4519-GP	NSO
Glypican 1	M	4520-GP	NSO
Glypican 2	H	2304-GP	NSO
Glypican 2	M	2355-GP	NSO
Glypican 3	H	2119-GP	NSO
Glypican 3	M	6938-GP	NSO
Glypican 5	H	2607-G5	NSO
Glypican 5	M	2689-G5	NSO
Glypican 6	H	2845-GP	NSO
gp130	H	671-GP	NSO
gp130	M	468-MG	NSO
gp130	R	5029-RG	NSO
IFN- β	H	8499-IF	CHO
IFN- β	M	8234-MB	HEK293
IFN- γ	M	485-MI	<i>E. coli</i>
IFN- κ	M	8437-MK	NSO
IGSF4A/SynCAM1	H	3519-S4	NSO
IGSF4A/SynCAM1	M	1459-S4	NSO
IGSF4B/SynCAM3	H	3678-S4	NSO
IGSF4C/SynCAM4	H	4164-S4	NSO

Molecule	Species	Catalog #	Source
IGSF4D/SynCAM2	H	4290-S4	NSO
IL-1 α	H	200-LA	<i>E. coli</i>
IL-1 α	M	400-ML	<i>E. coli</i>
IL-1 β	H	201-LB	<i>E. coli</i>
IL-1 β	M	401-ML	<i>E. coli</i>
IL-1 β , GMP	H	201-GMP	<i>E. coli</i>
IL-1 RAcP/IL-1 R3	H	676-CP	<i>Sf</i> 21
IL-1 RAPL2/IL-1 R9	H	1007-MR	NSO
IL-1 RI	H	269-1R	NSO
IL-1 RI	M	771-MR	NSO
IL-1 RII	H	663-2R	CHO
IL-1 RII	H	263-2R	<i>Sf</i> 21
IL-1 RII	M	563-MR	<i>Sf</i> 21
IL-1 Rrp2/IL-1 R6	H	872-RP	<i>Sf</i> 21
IL-1 Rrp2/IL-1 R6	M	2354-RP	NSO
IL-2	H	202-IL	<i>E. coli</i>
IL-2	M	402-ML	<i>E. coli</i>
IL-2, Animal-Free	H	AFL202	<i>E. coli</i>
IL-2, GMP	H	202-GMP	<i>E. coli</i>
IL-4	H	204-IL	<i>E. coli</i>
IL-4	M	404-ML	<i>E. coli</i>
IL-4	R	504-RL	<i>E. coli</i>
IL-4, Animal-Free	H	AFL204	<i>E. coli</i>
IL-6	H	206-IL	<i>E. coli</i>
IL-6	H	7270-IL	HEK293
IL-6	M	406-ML	<i>E. coli</i>
IL-6, Animal-Free	H	AFL206	<i>E. coli</i>
IL-6, GMP	H	206-GMP	<i>E. coli</i>
IL-6 R α	H	227-SR	<i>Sf</i> 21
IL-6 R α (aa 20-357)	M	1830-SR	NSO
IL-10	H	217-IL	<i>Sf</i> 21
IL-10	M	417-ML	<i>E. coli</i>
IL-10	R	522-RL	<i>E. coli</i>
IL-10 (aa 19-178)	H	1064-IL	<i>E. coli</i>
IL-10 R α	H	274-R1B	<i>Sf</i> 21
IL-10 R α	H	274-R1	<i>Sf</i> 21
IL-10 R α	M	474-MR	<i>Sf</i> 21
IL-10 R α	M	7704-MR	<i>Sf</i> 21
IL-10 R β	H	874-RB	NSO
IL-10 R β	M	5368-RB	NSO
IL-12	H	219-IL	<i>Sf</i> 21
IL-12	M	419-ML	<i>Sf</i> 21
IL-12	R	1760-RL	<i>Sf</i> 21
IL-12, GMP	H	219-GMP	<i>Sf</i> 21
IL-17A	H	317-IL	<i>E. coli</i>
IL-17A	H	7955-IL	HEK293
IL-17A	M	7956-ML	CHO
IL-17A	M	421-ML	<i>E. coli</i>
IL-17A	R	8410-IL	CHO
IL-17A/F Heterodimer	H	5837-IL	CHO
IL-17A/F Heterodimer	H	5194-IL	<i>E. coli</i>
IL-17A/F Heterodimer	M	5390-IL	<i>E. coli</i>

SELECT PROTEINS

Molecule	Species	Catalog #	Source
IL-17B	H	8129-IL	CHO
IL-17B	H	1248-IB	<i>E. coli</i>
IL-17B	M	1709-ML	<i>E. coli</i>
IL-17C	H	1234-IL	<i>E. coli</i>
IL-17C	M	2306-ML	<i>E. coli</i>
IL-17D	H	1504-IL	<i>E. coli</i>
IL-17D	M	2274-ML	<i>E. coli</i>
IL-17E	H	1258-IL	<i>E. coli</i>
IL-17E	H	8134-IL	HEK293
IL-17E	M	1399-IL	<i>E. coli</i>
IL-17E	M	7909-IL	NSO
IL-17F	H	1335-IL	<i>E. coli</i>
IL-17F	H	1335-INS	NSO
IL-17F	M	2057-IL	<i>E. coli</i>
IL-17 RA/IL-17 R	H	177-IR	NSO
IL-17 RA/IL-17 R	M	4481-MR	NSO
IL-17 RB	H	1207-BR	NSO
IL-17 RB	M	1040-BR	NSO
IL-17 RC	H	2269-IL	NSO
IL-17 RC	M	2270-ML	NSO
IL-17 RD/SEF	H	2275-IL	NSO
IL-17 RE	H	8358-MR	CHO
IL-17 RE	M	7997-MR	NSO
IL-18/IL-1F4	R	521-RL	<i>E. coli</i>
IL-20	H	1102-IL	<i>E. coli</i>
IL-20	M	1204-ML	<i>E. coli</i>
IL-20 R α	H	1176-IR	NSO
IL-20 R β	H	1788-IR	NSO
IL-20 R β	M	4388-MR	NSO
IL-21	M	594-ML	<i>E. coli</i>
IL-22	H	782-IL	<i>E. coli</i>
IL-22	M	582-ML	<i>E. coli</i>
IL-22	R	1316-RL	<i>E. coli</i>
IL-23	H	1290-IL	<i>Sf</i> 21
IL-23	M	1887-ML	<i>Sf</i> 21
IL-23	R	3136-RL	<i>Sf</i> 21
IL-27	H	2526-IL	NSO
IL-27	M	2799-ML	NSO
IL-27 p28/IL-30	M	7430-ML	NSO
IL-28A/IFN- λ 2	H	8417-IL	HEK293
IL-33	H	3625-IL	<i>E. coli</i>
IL-33	M	3626-ML	<i>E. coli</i>
IL-35	H	8608-IL	HEK293
Insulysin	H	2496-ZN	<i>Sf</i> 21
Insulysin	R	6958-ZN	<i>Sf</i> 21
LILRB2/CD85d/ILT4	H	8429-T4	HEK293
LR3 IGF-I	H	8335-G1	<i>E. coli</i>
MAG/Siglec-4a	M	8580-MG	NSO
Meteorin	M	3475-MN	NSO
Meteorin-like	M	6679-MN	CHO
Mindin	M	8500-SP	NSO

Molecule	Species	Catalog #	Source
MMP-2	H	902-MP	CHO
MMP-9	H	911-MP	CHO
MMP-9	M	909-MM	NSO
MMP-9	R	5427-MM	NSO
MOG	H	8535-MO	NSO
MOG	M	8536-MO	NSO
N-Cadherin	H	1388-NC	NSO
N-Cadherin	M	6626-NC	NSO
NCAM-1/CD56	H	2408-NC	NSO
NCAM-1/CD56	M	6070-NC	NSO
Nectin-1	H	2880-N1	NSO
Nectin-2/CD112	H	2229-N2	NSO
Nectin-2/CD112	M	3869-N2	NSO
Nectin-3	H	3064-N3	NSO
Nectin-4	H	2659-N4	NSO
Nectin-4	M	3116-N4	NSO
Neogenin	H	8607-NE	HEK293
Nepriylsin	H	1182-ZNC	CHO
Nepriylsin	M	1126-ZNC	CHO
Netrin-1	H	6419-N1	NSO
Netrin-1	M	1109-N1	NSO
Netrin-4	H	1254-N4	NSO
Netrin-4	M	1132-N4	NSO
Netrin-G1a	M	1166-NG	<i>Sf</i> 21
Netrin-G2a	M	2744-NG	NSO
Neurexin 1 β	H	5268-NX	NSO
Neurexin 3 β	H	5269-NX	NSO
Neurexophilin-1	H	4957-NX	NSO
Neurocan	H	6508-NC	CHO
Neurocan	M	5800-NC	CHO
Neurofascin	H	8208-NF	HEK293
Neurofascin	R	3235-NF	NSO
Neuroglycan C	H	5685-NG	CHO
Neuroglycan C	M	5665-NG	CHO
Neuroigin 1 Variant 2	H	7066-NL	NSO
Neuroigin 1 Variant 2 (-ssB)	H	6446-NL	NSO
Neuroigin 2	H	5645-NL	NSO
Neuroigin 4	H	5158-NL	NSO
Neuronal Pentraxin 1	H	7707-NP	NSO
Neuronal Pentraxin 2	H	7816-NP	NSO
Neuronal Pentraxin R	H	4414-NP	NSO
Neuropilin-1	H	3870-N1	NSO
Neuropilin-1	M	5994-N1	NSO
Neuropilin-1	R	566-N1	<i>Sf</i> 21
Neuropilin-1	R	566-NNS	NSO
Neuropilin-2	H	2215-N2	NSO
Neuropilin-2	M	7988-N2	NSO
Neuropilin-2	R	567-N2	NSO
Neuroplastin	M	7818-NP	NSO
Neuroplastin 65	H	5360-NP	NSO
Neuropoietin	M	2709-NP	<i>E. coli</i>

Species Key: H Human, M Mouse, R Rat, B Bovine

Source Key: CHO (Chinese hamster ovary cell line), HEK293 (Human embryonic kidney cell line), NSO (Mouse myeloma cell line), *Sf* (*Spodoptera frugiperda*)

SELECT PROTEINS

Molecule	Species	Catalog #	Source
Neurturin	H	1297-NE	<i>E. coli</i>
Neurturin	M	477-MN	<i>E. coli</i>
Neurturin (Histidine-tagged)	H	387-NE	<i>E. coli</i>
β -NGF	H	256-GF	NSO
β -NGF	M	1156-NG	NSO
β -NGF	R	556-NG	<i>Sf</i> 21
β -NGF	R	7815-NG	CHO
NGF R/TNFRSF16	H	367-NR	<i>Sf</i> 21
NGF R/TNFRSF16	M	1157-NR	NSO
NgR3/NgRH2	H	8439-NG	HEK293
NgR3/NgRH2	M	8426-NG	NSO
Nogo Receptor	H	1208-NG	NSO
Nogo-A	R	2445-NG	NSO
Nogo-A (aa 1-172)	R	3098-NG	NSO
Nogo-A (aa 566-748)	H	3515-NG	CHO
Nogo-A (aa 1026-1090)	R	3728-NG	<i>Sf</i> 21
NrCAM	H	2034-NR	NSO
NrCAM	M	8425-NR	NSO
NRG1 (Isoform SMDF)	H	378-SM	<i>Sf</i> 21
NRG1/HRG1	H	5898-NR	NSO
NRG1- α /HRG1- α (EGF Domain)	H	296-HR	<i>E. coli</i>
NRG1- β 1/HRG1- β 1 (ECD)	H	377-HB	<i>E. coli</i>
NRG1- β 1/HRG1- β 1 (EGF Domain)	H	396-HB	<i>E. coli</i>
NRG1- β 1/HRG1- β 1 (EGF Domain), GMP	H	396-GMP	<i>E. coli</i>
NT-3	H	267-N3	<i>Sf</i> 21
NT-4	H	268-N4	<i>Sf</i> 21
NT-4	M	3236-N4	NSO
PDGF R α	H	322-PR	NSO
PDGF R α	H	6765-PR	NSO
PDGF R α	M	1062-PR	NSO
PDGF R β	H	385-PR	NSO
PDGF R β	M	1042-PR	NSO
PDGF-AA	H	221-AA	<i>E. coli</i>
PDGF-AB	H	222-AB	<i>E. coli</i>
PDGF-BB	H	220-BB	<i>E. coli</i>
PDGF-BB, GMP	H	220-GMP	<i>E. coli</i>
PDGF-CC	H	1687-CC	<i>E. coli</i>
PDGF-CC	M	1447-PC	<i>E. coli</i>
PDGF-DD	H	1159-SB	NSO
Pentraxin 2	H	1948-SA	NSO
Pentraxin 2	M	2558-SA	NSO
Pentraxin 3	H	1826-TS	NSO
Pentraxin 3	M	2166-TS	NSO
Persephin	H	2388-PS	<i>E. coli</i>
Persephin	M	2479-PS	<i>E. coli</i>
Plexin A1	M	4309-PA	NSO
Plexin A4	H	5856-PA	CHO
Plexin B2	H	5329-PB	CHO
Plexin B2	M	6836-PB	CHO
Plexin D1	H	4160-PD	NSO
Protocadherin-10	H	6510-CA	NSO

Molecule	Species	Catalog #	Source
Protocadherin-17	H	7669-CA	HEK293
Protocadherin-18	H	8315-CA	CHO
Protocadherin γ C3	H	8364-CA	CHO
Pyridoxal Kinase/PDXK	H	8658-PK	<i>E. coli</i>
Reelin	H	8546-MR	CHO
Reelin	M	3820-MR	NSO
Reg2	M	2098-RG	CHO
Reg3A	H	5940-RG	<i>E. coli</i>
Reg3A	M	3907-RG	<i>E. coli</i>
Reg3A	M	7539-RG	CHO
Reg3A	R	8347-RG	<i>E. coli</i>
Reg3B	M	5110-RG	<i>E. coli</i>
Reg3B	R	8288-RG	<i>E. coli</i>
Reg3G	M	8189-RG	<i>E. coli</i>
Reg3G	R	1745-RG	<i>E. coli</i>
Reg4	H	1379-RG	<i>E. coli</i>
Reg4	M	4780-RG	<i>E. coli</i>
RGM-A	H	2459-RM	NSO
RGM-A	M	2458-RG	NSO
RGM-B	H	3630-RG	NSO
RGM-B	M	3597-RG	NSO
RGM-C	H	3720-RG	NSO
RGM-C	M	3634-RG	NSO
ROBO1	R	1749-RB	NSO
ROBO2	H	3147-RB	NSO
ROBO2	M	8366-RB	NSO
ROBO3	H	3076-RB	NSO
ROBO3	M	3155-RB	NSO
ROBO4	H	2366-RB	NSO
ROR2	H	8609-RO	NSO
R-Spondin 1	H	4645-RS	CHO
R-Spondin 1	M	3474-RS	<i>E. coli</i>
R-Spondin 1	M	7150-RS	CHO
R-Spondin 2	H	3266-RS	NSO
R-Spondin 2	M	6946-RS	CHO
R-Spondin 3	H	3500-RS	CHO
R-Spondin 3	M	4120-RS	CHO
R-Spondin 4	H	4575-RS	CHO
R-Spondin 4	M	4106-RS	CHO
SCF	H	255-SC	<i>E. coli</i>
SCF	H	7466-SC	HEK293
SCF	M	455-MC	<i>E. coli</i>
SCF, Animal-Free	H	AFL255	<i>E. coli</i>
Semaphorin 3A	H	1250-S3	NSO
Semaphorin 3A	M	5926-S3	CHO
Semaphorin 3B	M	5440-S3	NSO
Semaphorin 3C	H	5570-S3	NSO
Semaphorin 3C (Truncated)	M	1728-S3	<i>Sf</i> 21
Semaphorin 3E	H	3239-S3	NSO
Semaphorin 3E	M	3238-S3	<i>Sf</i> 21
Semaphorin 3F (Truncated)	M	3237-S3	NSO
Semaphorin 4A	H	4694-S4	NSO

SELECT PROTEINS

Molecule	Species	Catalog #	Source
Semaphorin 4C	H	6125-S4	NSO
Semaphorin 4C	M	8394-S4	NSO
Semaphorin 4D	H	7470-S4	CHO
Semaphorin 4D	M	5235-S4	NSO
Semaphorin 4F	M	7200-S4	NSO
Semaphorin 4G	H	5840-S4	NSO
Semaphorin 5A	H	5896-S5	NSO
Semaphorin 5A	M	6584-S5	CHO
Semaphorin 5B	M	6766-S5	CHO
Semaphorin 6A	H	1146-S6	NSO
Semaphorin 6B	H	2094-S6	NSO
Semaphorin 6C	H	2219-S6	NSO
Semaphorin 6C	M	2108-S6	NSO
Semaphorin 6D	H	2095-S6	NSO
Semaphorin 6D	M	7067-S6	NSO
Semaphorin 7A	H	2068-S7	NSO
Semaphorin 7A	M	1835-S3	NSO
Serum Amyloid A2	M	8478-SA	<i>E. coli</i>
SEZ6/BSRP-C	M	4989-BC	NSO
SEZ6L	H	5598-S6	CHO
SEZ6L	M	4804-S6	NSO
Slit1	H	6514-SL	CHO
Slit1	M	5199-SL	CHO
Slit2	H	8616-SL	HEK293
Slit2	M	5444-SL	CHO
SLITRK1	H	3009-SK	NSO
Soggy-1/DkkL1	H	1549-S1	NSO
Sonic Hedgehog (C24II) N-Terminus	H	1845-SH	<i>E. coli</i>
Sonic Hedgehog (C25II) N-Terminus	M	464-SH	<i>E. coli</i>
Sonic Hedgehog N-Terminus	H	1314-SH	<i>E. coli</i>
Sonic Hedgehog N-Terminus	M	461-SH	<i>E. coli</i>
Sonic Hedgehog N-Terminus, GMP	H	1314-GMP	<i>E. coli</i>
Sortilin	H	3154-ST	NSO
Sortilin	M	2934-ST	NSO
SOST/Sclerostin	H	1406-ST	NSO
SOST/Sclerostin	M	1589-ST	NSO
Syndecan-1	H	2780-SD	NSO
Syndecan-1	M	3190-SD	NSO
Syndecan-2	H	2965-SD	NSO
Syndecan-2	M	6585-SD	NSO
Syndecan-3	H	3539-SD	NSO
Syndecan-3	M	2734-SD	NSO
Syndecan-4	H	2918-SD	NSO
Syndecan-4	M	6267-SD	NSO
Syntaxin 4	H	7894-ST	<i>E. coli</i>
TAF1/FAM19A1	H	5154-TA	<i>E. coli</i>
TAF2/FAM19A2	H	4179-TA	<i>E. coli</i>
TAF3/FAM19A3	H	4677-TA	<i>E. coli</i>
TAF4/FAM19A4	H	5099-TA	<i>E. coli</i>
TAF5/FAM19A5	H	5148-TA	<i>E. coli</i>
TGF- α	H	239-A	<i>E. coli</i>

Molecule	Species	Catalog #	Source
TGF- β 1	H	240-B	CHO
TGF- β 1	H	7754-BH	HEK293
TGF- β 1	M	7666-MB	CHO
TGF- β 1, ACPF	H	ACFP240	<i>Sf</i> 9
TGF- β 1, GMP	H	240-GMP	CHO
TGF- β 1.2	H	304-B3	<i>Sf</i> 21
TGF- β 2	H	302-B2	NSO
TGF- β 2	M	7346-B2	CHO
TGF- β 3	H	243-B3	<i>Sf</i> 21
TGF- β 3	H	8420-B3	CHO
TGF- β RI/ALK-5	H	3025-BR	NSO
TGF- β RI/ALK-5	M	587-RI	<i>Sf</i> 21
TGF- β RII	H	241-R2	NSO
TGF- β RII	H	341-BR	NSO
TGF- β RII	M	532-R2	NSO
TGF- β RII	M	1600-R2	NSO
TGF- β RII Isoform 2	H	1003-RT	NSO
TGF- β RIII	H	242-R3	NSO
TGF- β RIII	M	5034-R3	NSO
TNF- α	H	210-TA	<i>E. coli</i>
TNF- α	R	510-RT	<i>E. coli</i>
TNF- α , Animal-Free	H	AFL210	<i>E. coli</i>
TNF- α , GMP	H	210-GMP	<i>E. coli</i>
TNF- α (aa 80-235)	M	410-MT	<i>E. coli</i>
TNF- α (aa 84-235)	M	410-TRNC	<i>E. coli</i>
TNF- α Hyperactive Mutant	H	8599-TA	<i>E. coli</i>
TNF- β	H	211-TB	<i>E. coli</i>
TrkA	H	175-TK	NSO
TrkB	H	688-TK	NSO
TrkB	M	1494-TB	NSO
TrkC	H	373-TC	NSO
TrkC	M	1404-TC	NSO
VLDL R	H	8444-VL	HEK293
Wnt-2b	M	3900-WN	CHO
Wnt-3a	H	5036-WN	CHO
Wnt-3a	M	1324-WN	CHO
Wnt-3a, GMP	H	5036-GMP	CHO
Wnt-3a (High Purity)	H	5036-WNP	CHO
Wnt-3a (High Purity)	M	1324-WNP	CHO
Wnt-4	H	6076-WN	CHO
Wnt-4	M	475-WN	CHO
Wnt-5b	H	7347-WN	CHO
Wnt-5b	M	3006-WN	CHO
Wnt-7a	H	3008-WN	CHO
Wnt-8a	M	8419-WN	CHO
Wnt-9a	M	8148-WN	CHO
Wnt-9b	M	3669-WN	CHO
Wnt-10b	H	7196-WN	CHO
Wnt-10b	M	2110-WN	CHO
Wnt-11	H	6179-WN	CHO
Wnt-16b	H	7790-WN	CHO

Species Key: H Human, M Mouse, R Rat, B Bovine

Source Key: CHO (Chinese hamster ovary cell line), HEK293 (Human embryonic kidney cell line), NSO (Mouse myeloma cell line), *Sf* (*Spodoptera frugiperda*)

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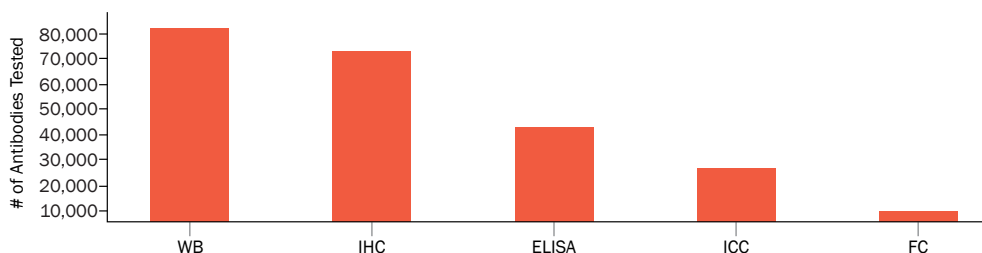
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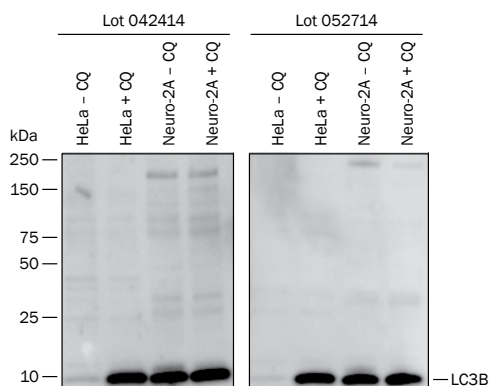
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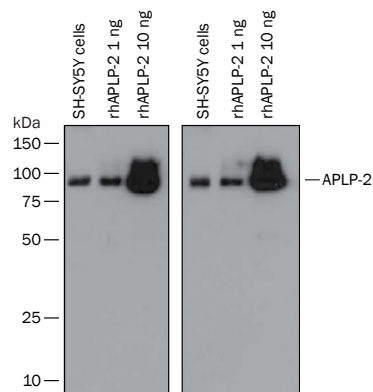
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Lot-to-Lot Consistency of LC3B Detection by Western Blot.

Specific detection of Human LC3B in lysates from the HeLa human cervical epithelial carcinoma and Neuro-2A mouse neuroblastoma cell lines that were either untreated (-CQ) for treated (+CQ) with Chloroquine was confirmed using two separate lots of a Rabbit Anti-Human/Mouse/Rat LC3B/MAP1LC3B Polyclonal Antibody (Novus Biologicals, Catalog # NB600-1384).

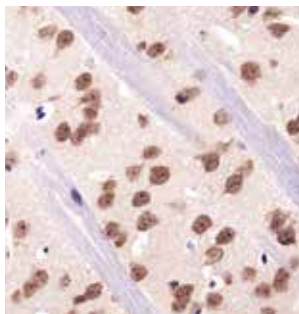


Lot-to-Lot Consistency of APLP-2 Detection by Western Blot.

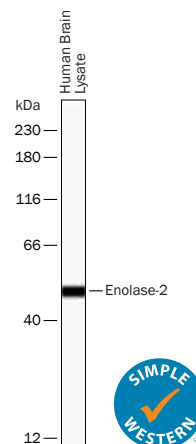
Specific detection of Human APLP-2 in lysates from the SH-SY5Y human neuroblastoma cell line was confirmed with increasing concentrations of recombinant human APLP-2 using two separate lots of a Mouse Anti-Human APLP-2 Monoclonal Antibody (R&D Systems, Catalog # MAB49451).

Application Data in a Wide Variety of Neuronal Substrates

NeuN in Mouse Brain. NeuN was detected in immersion-fixed paraffin-embedded sections of mouse brain (cerebellum) using Rabbit Anti-Human/Mouse/Rat NeuN Antigen Affinity-Purified Polyclonal Antibody (Novus Biologicals, Catalog # NBP1-77686). The cerebellar tissue was stained using HRP and DAB (brown), and counterstained with hematoxylin (blue).

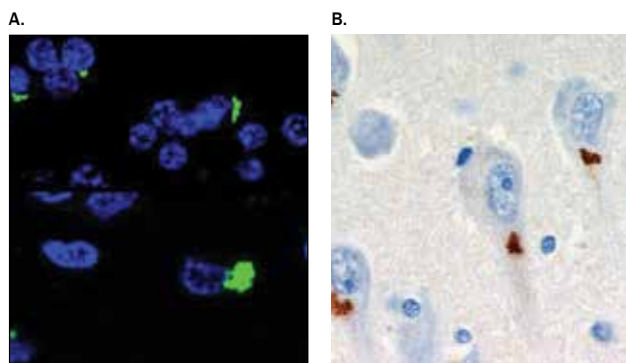


Detection of Human Enolase-2 by Simple Western™. Simple Western™ lane view shows lysate of human brain. A specific band was detected for Enolase 2/Neuron-Specific Enolase at approximately 47 kDa (as indicated) using a Rabbit Anti-Human/Mouse/Rat Enolase 2/Neuron-Specific Enolase Polyclonal Antibody (Novus Biologicals, Catalog # NB110-58870).

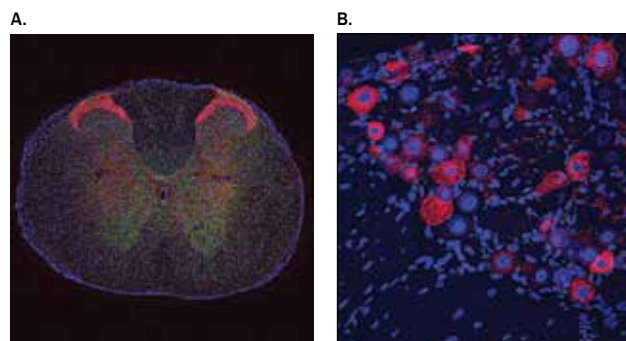


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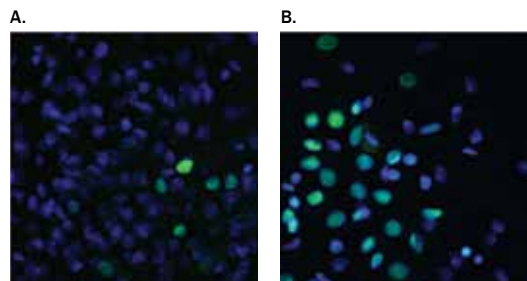


C9RANT in Human Cerebellum and Hippocampus. C9RANT, a protein that abnormally accumulates in brains of subjects afflicted with c9FTD/ALS, was detected in immersion-fixed paraffin-embedded sections of human hippocampus (A) and cerebellum (B) from individuals with c9FTD/ALS using a Rabbit Anti-C9RANT Polyclonal Antibody (Novus Biologicals, Catalog # NBP2-25018). The hippocampal tissue (A) was stained using a fluorescently-labeled secondary antibody (green) and then counterstained with DAPI (blue). The cerebellar tissue (B) was stained using HRP and DAB (brown), and counterstained with hematoxylin (blue). *Images courtesy of Dr. Tania Gendron and Kevin Bieniek, Mayo Graduate School.*

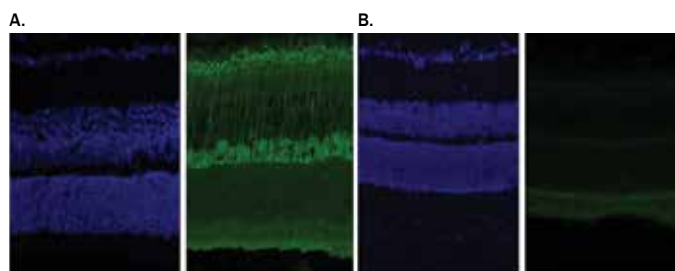


μ Opioid Receptor Expression in Mouse Spinal Cord and Dorsal Root Ganglion. The μ Opioid Receptor/OPRM1 was detected in perfusion-fixed frozen sections of mouse spinal cord (A) and dorsal root ganglion (B) using a Rabbit Anti-Rat μ Opioid R/OPRM1 Monoclonal Antibody (Catalog # MAB8629). The tissue was stained using the NorthernLights™ (NL) 557-Conjugated Donkey Anti-Rabbit IgG Secondary Antibody (Catalog # NL004; red) and counterstained with DAPI (blue). In the spinal cord, specific staining was localized to the dorsal horn. All cited reagents are from R&D Systems.

Trusted and Published by Scientists



SOX2 Expression in Hypothalamic Neuroprogenitor Cells Following Fluoxetine Treatment. Rat hypothalamic neuroprogenitor cells (E18-19) were incubated for 18 days either in the absence (A) or presence (B) of the selective serotonin reuptake inhibitor Fluoxetine. Cells were then examined for the expression of the progenitor cell marker SOX2 using the Mouse Anti-Human/Mouse SOX2 Monoclonal Antibody (R&D Systems, Catalog # MAB2018). The cells were stained with an Alexa Fluor® 488-conjugated goat anti-mouse secondary antibody (green) and counterstained with DAPI (blue). *Images from Sousa-Ferreira, L. et al. (2014) PLoS One 9:e88917.*



mGluR6 is Down-Regulated in SIRT6-KO Retina. mGluR6 was detected in whole retina from wild-type (A) and SIRT6 knock-out (B) mice using a Rabbit Anti-Rat/Mouse Metabotropic Glutamate Receptor 6 (mGluR6) Antigen Affinity-Purified Polyclonal Antibody (Novus Biologicals, Catalog # NB300-189). The tissue was stained using an Alexa Fluor® 488-conjugated rabbit anti-goat IgG secondary antibody (green) and counterstained with DAPI (blue). *Images from Dafne et al. (2014) PLoS One 9: e98831.*

SELECT ANTIBODIES

Molecule	Catalog #	Brand	Species	Clonality	Applications	Conjugates
1433γ	NB100-406	Novus Biologicals	H	Mono	WB, ICC, SW	No
5HT1D Receptor	NB100-56349	Novus Biologicals	H, M, R	Poly	WB, SW	No
5HT1E Receptor	NBP1-90320	Novus Biologicals	H	Poly	WB, IHC	No
5HT1F Receptor	NBP1-46541	Novus Biologicals	H, M, R	Poly	WB, IHC	No
5HT4 Receptor	NBP1-78403	Novus Biologicals	H	Poly	ICC	Yes
5HT7 Receptor	NB100-56352	Novus Biologicals	H, M, R +	Poly	WB, ICC	No
ABCA1	NB400-105	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC, ELISA, FC, SW	Yes
ABCG1	NB400-132	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC, <i>In Vitro</i>	Yes
ABCG2/CD338	NB100-2177	Novus Biologicals	H	Mono	WB, ICC, IHC	No
Aβ (Total)	NBP2-13075	Novus Biologicals	H, M, R	Mono	WB, ICC, IHC, ELISA, IP	Yes
Aβ40	NB300-225	Novus Biologicals	H, M	Poly	WB, ICC, IP	No
Aβ42	NB300-226	Novus Biologicals	H, M	Poly	WB, IP	No
Agrin	AF550	R&D Systems	R	Poly	WB, IHC, B/N, ELISA	Yes
AIF-1/Iba1	MAB7308	R&D Systems	H	Mono	IHC	No
AMIGO2	AF2374	R&D Systems	M	Poly	WB	Yes
Ankyrin 1	NBP2-33806	Novus Biologicals	H, M	Poly	WB, IHC	No
APLP-2	MAB49451	R&D Systems	H	Mono	WB	No
ApoE	NB110-60531	Novus Biologicals	H, M, R (Negative)	Mono	WB, IHC, ELISA, FC,	Yes
ApoE (E4 isoform)	NBP1-49529	Novus Biologicals	H	Mono	WB, ELISA, IP	Yes
ApoE Receptor 2	NB100-2216	Novus Biologicals	H, M +	Poly	WB, ICC	Yes
APP	AF1168	R&D Systems	H	Poly	WB, IHC	No
Aromatase	NB100-1596	Novus Biologicals	H +	Poly	WB, ICC	Yes
Artemin	MAB10851	R&D Systems	M	Mono	WB	No
Attractin	AF7238	R&D Systems	H	Poly	WB, ICC	No
Axin-1	AF3287	R&D Systems	H, M, R	Poly	WB	Yes
Axin-2	MAB6078	R&D Systems	H	Mono	ICC	No
Axl	AF854	R&D Systems	M	Poly	WB	Yes
BACE-1 (Ectodomain)	MAB9311	R&D Systems	H, M	Mono	IP, B/N	No
BACE-2	MAB4097	R&D Systems	H	Mono	IHC	Yes
BAI1	NB110-81586	Novus Biologicals	H, M	Poly	WB, ICC, IHC	Yes
BDNF	NBP2-42215	Novus Biologicals	H, M, R +	Mono	WB, ICC, IHC, FC	Yes
BDNF (Pro region)	MAB3175	R&D Systems	H	Mono	IHC	No
Bestrophin 1	NB300-164	Novus Biologicals	H, M, R +	Mono	WB, ICC, IHC, IP	No
BMAL1	NB100-2288	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC, ChIP	Yes
BrdU	NB500-169	Novus Biologicals	Non-Species Specific	Mono	ICC, IHC, FC	Yes
C9RANT	NBP2-25018	Novus Biologicals	All Species	Poly	WB, ICC, IHC, ELISA	No
Calcium Sensing Receptor	NB100-1830	Novus Biologicals	H, M, R +	Mono	WB, ICC, IHC, ELISA, FC, IP, RI, SW	Yes
Calreticulin	NB600-101	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC, B/N, DB, IP, SW	No
Calsyntenin-2	AF5480	R&D Systems	H	Poly	IHC	No
Cannabinoid Receptor 1	NB120-23703	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC	No
Cannabinoid Receptor 2	NBP2-15689	Novus Biologicals	H	Poly	WB, ICC, IHC	No
CASK	NBP1-47648	Novus Biologicals	H, M, R +	Mono	WB, IHC, IP	No
Caspase-3	NB500-210	Novus Biologicals	H, M, R	Mono	WB, IHC, SW	No
Caspase-3 (Cleaved)	NB100-56113	Novus Biologicals	H, M, R +	Poly	WB, IHC, FC, IP	No
β-Catenin	NBP1-54467	Novus Biologicals	H, M, R +	Mono	WB, ICC, IHC, IP, SW	No
Cav 1.2	NBP1-42820	Novus Biologicals	H, M, R +	Poly	WB, IP, B/N	Yes
CD3ε	MAB484	R&D Systems	M	Mono	CD, FC, IP, TCS	Yes
CD4	MAB6439	R&D Systems	R	Mono	WB	Yes

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SELECT ANTIBODIES

Molecule	Catalog #	Brand	Species	Clonality	Applications	Conjugates
CD8 α	MAB116	R&D Systems	M	Mono	ICC, CD, FC, IP, TSI	Yes
CD11b	MAB1124	R&D Systems	M	Mono	ICC, IHC, FC, IP	Yes
CD11b	NB110-89474	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC, FC, SW	Yes
CD11b/c	NB110-40766	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC, FC	Yes
CD14	AF982	R&D Systems	M	Poly	WB	Yes
CD25/IL-2 Receptor α	AF2438	R&D Systems	M	Poly	WB, IHC, B/N, ELISA	Yes
CD31	NB600-562	Novus Biologicals	H +	Mono	WB, IHC, ELISA	No
CD34	NB600-1071	Novus Biologicals	M	Mono	WB, ICC, IHC, ELISA, FC, IP	Yes
CD45	AF114	R&D Systems	M	Poly	WB, ICC, FC	Yes
CD68/SR-D1	MAB20401	R&D Systems	M	Mono	ICC, FC	Yes
c-Fos	AF7254	R&D Systems	M	Poly	WB	No
CLOCK	NB100-126	Novus Biologicals	H, M	Poly	WB, ChIP	No
c-Myc	NB600-302	Novus Biologicals	H, M +	Mono	WB, ICC, IHC, ChIP, ELISA, FC, IP, SW	Yes
Complexin-1/2	AF7787	R&D Systems	H, M, R	Poly	WB, ICC	No
Contactin-1	AF7549	R&D Systems	H, M, R	Poly	WB	No
Contactin-2	AF4439	R&D Systems	M, R	Poly	WB, IHC, SW	No
Contactin-3	AF5539	R&D Systems	H, M, R	Poly	WB, ICC	No
Crystallin AB	NB100-2519	Novus Biologicals	H, M	Poly	WB, ICC	Yes
DAT1	NBP2-22164	Novus Biologicals	M, R, (H Negative)	Mono	WB, ICC, IHC, ELISA, IP	Yes
DISC1	NB110-40775	Novus Biologicals	M, R	Poly	ICC, IHC, SW	Yes
DOPA Decarboxylase	NB300-174	Novus Biologicals	M, R +	Poly	WB, IHC, SW	No
Dopamine Receptor D1	NB110-60017	Novus Biologicals	M, R	Mono	WB, ICC, IHC	Yes
Dopamine Receptor D2	NLS1405	Novus Biologicals	H	Poly	IHC	No
Dopamine Receptor D3	NBP1-02398	Novus Biologicals	H	Poly	IHC	No
Dopamine Receptor D4	NBP1-00779	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC	No
Dopamine Receptor D5	NB110-60019	Novus Biologicals	M, R, (H Negative)	Mono	WB, ICC, IHC	Yes
Doublecortin	NBP1-92684	Novus Biologicals	H, M, R +	Mono	WB, ICC	Yes
DRP1	NB110-55288	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC, IP, SW	Yes
EGF Receptor/ErbB1	AF231	R&D Systems	M	Poly	WB, ELISA, FC, IP	Yes
Enolase 2/Neuron-Specific Enolase	MAB5169	R&D Systems	M	Mono	WB, IHC, IP	No
eNos	NBP1-51582	Novus Biologicals	H	Mono	WB, IHC, ELISA	No
EphA1	AF638	R&D Systems	H	Poly	WB, ICC, FC	Yes
EphA1	AF3034	R&D Systems	M	Poly	WB, IHC, FC	No
EphA2	AF639	R&D Systems	M	Poly	WB, IHC	Yes
EphA3	AF640	R&D Systems	M	Poly	WB, IHC	Yes
EphA4	AF641	R&D Systems	M	Poly	WB, IHC	Yes
EphA5	AF3037	R&D Systems	M	Poly	WB, FC	No
EphA7	MAB1495	R&D Systems	M	Mono	WB	No
EphB1	MAB5422	R&D Systems	R	Mono	IHC	No
EphB2	AF467	R&D Systems	H, M	Poly	WB, ICC, IHC, FC	Yes
Ephrin-A1	AF702	R&D Systems	M	Poly	WB	Yes
Ephrin-A2	AF603	R&D Systems	M	Poly	WB, ICC, B/N	Yes
Ephrin-A3	AF359	R&D Systems	H	Poly	WB	Yes
Ephrin-A5	AF3743	R&D Systems	H	Poly	WB, IHC	Yes
Ephrin-B1	AF473	R&D Systems	M	Poly	WB, IHC	Yes
Ephrin-B2	AF496	R&D Systems	M	Poly	WB, ICC, FC	Yes
Ephrin-B3	AF395	R&D Systems	H	Poly	WB, IHC	Yes
FABP7	NBP2-27073	Novus Biologicals	H, M +	Poly	WB, IHC	No

Species Key: H Human, M Mouse, R Rat, + Additional Species Available **Applications Key:** B/N (Blocking/Neutralization), CD (Cell Depletion), ChIP (Chromatin Immunoprecipitation), DB (Dot Blot), ELISA (ELISA Capture and/or Detection), FC (Flow Cytometry), ICC (Immunocytochemistry), IHC (Immunohistochemistry), IP (Immunoprecipitation), PEP-ELISA (Peptide-ELISA), TCS (T Cell Stimulation), TSI (Inhibition of T Cell Function), RI (Radioimmunoassay), SW (Simple Western™), and WB (Western blot)

SELECT ANTIBODIES

Molecule	Catalog #	Brand	Species	Clonality	Applications	Conjugates
FUS	NBP1-50623	Novus Biologicals	H, M	Poly	WB, ICC, IHC	Yes
GABA A Receptor α 1	NB300-191	Novus Biologicals	H, M, R +	Poly	WB, ICC, DB, IP	No
GABA A Receptor α 2	NBP1-87464	Novus Biologicals	H, R	Poly	WB, IHC	No
GABA A Receptor α 3	NBP1-87499	Novus Biologicals	H, M	Poly	WB, IHC	No
GABA A Receptor α 4	NB300-194	Novus Biologicals	M, R	Poly	WB, IHC	No
GABA A Receptor α 5	NB300-195	Novus Biologicals	H, R	Poly	WB	No
GABA A Receptor α 6	NB300-196	Novus Biologicals	M, R	Poly	WB, ICC	No
GABA A Receptor β 3	AF5590	R&D Systems	M	Poly	WB, IHC, SW	No
GABA A Receptor γ 1	NBP1-91003	Novus Biologicals	H	Poly	IHC	No
GABA A Receptor γ 2	NB300-190	Novus Biologicals	H, M, R +	Poly	WB, IHC	No
GABA B Receptor 1	NB300-160	Novus Biologicals	H	Poly	WB	No
GABA B Receptor 1	MAB7000	R&D Systems	R	Mono	IHC	No
GABA B Receptor 2	NB300-159	Novus Biologicals	H	Poly	WB	No
GABA B Receptor 2	AF1188	R&D Systems	R	Poly	WB, IHC	No
GABARAP	NBP1-71771	Novus Biologicals	H, M	Poly	WB, ICC, IHC	Yes
GABA Receptor γ 3	NB100-56662	Novus Biologicals	H, M, R	Poly	WB	No
GAD1/GAD67	AF2086	R&D Systems	M	Poly	WB, IHC	Yes
GAD2/GAD65	AF2247	R&D Systems	M	Poly	WB, IHC	Yes
GAP43	NB300-143	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC	Yes
GAPDH	NB300-221	Novus Biologicals	H, M, R +	Mono	WB, ICC, IHC, ChIP, IP, SW	No
Gephyrin/GPHN	MAB7519	R&D Systems	H, M	Mono	WB	No
GFAP	NB300-141	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC, SW	No
GFP	AF4240	R&D Systems	All Species	Poly	WB, ICC, FC, IP	Yes
GFR α -1	AF560	R&D Systems	R	Poly	WB, IHC, B/N	Yes
GFR α -2	AF429	R&D Systems	H, M	Poly	WB, IHC, B/N	Yes
GFR α -4	AF1677	R&D Systems	M	Poly	WB, IHC	Yes
GIT1	AF8508	R&D Systems	H	Poly	WB, IHC	No
Glucokinase	MAB7840	R&D Systems	H, M	Mono	WB	No
Glutamate Dehydrogenase 2/GLUD2	MAB8027	R&D Systems	H, M, R	Mono	WB, SW	No
Glutamine Synthetase	NB110-41404	Novus Biologicals	H, M, R +	Poly	WB, IHC	No
GPR120	NBP1-00858	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC	No
Hexokinase 1/2	AF8178	R&D Systems	H	Poly	WB, IHC	No
HIP1	NB300-203	Novus Biologicals	H, M	Mono	WB, ICC, IHC, ChIP	No
HOMER1	NBP1-44999	Novus Biologicals	H, M	Poly	WB, ICC	No
α -Internexin	NB300-216	Novus Biologicals	H, M, R +	Mono	WB, IHC	No
KCC2/SLC12A5	MAB8369	R&D Systems	H	Mono	WB, FC	Yes
Ki67	NB500-170	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC	Yes
Kif2a	NB500-180	Novus Biologicals	H, M, R +	Poly	WB, ICC, IP, SW	No
Kv1	NBP1-42788	Novus Biologicals	H, M, R +	Poly	WB, IP	Yes
Kv1.2	NBP1-42802	Novus Biologicals	H, M, R +	Poly	WB, ICC, IP	Yes
Kv1.2	NBP1-42818	Novus Biologicals	H, M, R +	Poly	WB, B/N, IP	No
Kv3.1	NBP1-42819	Novus Biologicals	H, M, R +	Poly	WB, B/N, IP	Yes
Laminin	NB300-144	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC	Yes
LC3/MAP1LC3A	MAB8558	R&D Systems	H	Mono	WB, IHC	No
LC3B/MAP1LC3B	NB600-1384	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC, FC, SW	Yes
Lin28	NBP1-49537	Novus Biologicals	H, M	Poly	WB, ICC, IHC	No
LINGO-1	MAB30861	R&D Systems	M	Mono	ICC, FC	No
LINGO-2	MAB36791	R&D Systems	M	Mono	WB, ICC, FC	No

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Molecule	Catalog #	Brand	Species	Clonality	Applications	Conjugates
LRRK2	NB300-268	Novus Biologicals	H, M +	Poly	WB, ICC, IHC, IP	Yes
MAGUK (pan)	NBP1-48306	Novus Biologicals	H, M, R +	Mono	WB, IHC, IP	No
MAP2	NB300-213	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC	No
Mash1	AF2567	R&D Systems	M	Poly	WB, IHC	Yes
MBL	AF2307	R&D Systems	M	Poly	WB, ELISA	Yes
Melatonin Receptor 1A	NBP1-71113	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC, ELISA	No
Melatonin Receptor 1B	NLS932	Novus Biologicals	H, M, R	Poly	WB, IHC	Yes
MELK	AF4820	R&D Systems	H	Poly	WB, IHC	No
Meteorin	AF3475	R&D Systems	M	Poly	WB, ICC	Yes
Methionine Sulfoxide	NBP1-06707	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC	No
mGluR1	MAB4836	R&D Systems	M	Mono	IHC	No
mGluR1a	NB110-39033	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC	No
mGluR2	MAB4676	R&D Systems	M	Mono	WB, FC	No
mGluR3	AF4668	R&D Systems	M	Poly	WB, IHC	Yes
mGluR4	AF7387	R&D Systems	M	Poly	IHC, FC	No
mGluR5	MAB4514	R&D Systems	M	Mono	WB, FC	No
mGluR6	NB300-189	Novus Biologicals	M, R	Poly	WB, ICC, IHC	Yes
mGluR7	MAB4405	R&D Systems	M	Mono	FC	No
mGluR8	MAB5277	R&D Systems	M	Mono	WB, IHC	No
Mitofilin	NB100-1919	Novus Biologicals	H, M, R +	Poly	WB, ICC, IP	No
Mitofusin 1	NBP1-71775	Novus Biologicals	M, R	Mono	WB, ICC, IHC	Yes
MMP-3	AF513	R&D Systems	H	Poly	WB, IHC, ELISA, IP	Yes
Musashi 1	NB100-1759	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC	No
Myelin Basic Protein	NB600-717	Novus Biologicals	H, M, R +	Mono	WB, ICC, IHC, ELISA, RI	No
NAC1	AF8375	R&D Systems	H	Poly	WB, IHC	No
N-Cadherin	NBP1-48309	Novus Biologicals	H, M, R	Mono	WB, ICC, IHC, IP, SW	Yes
NCAM-1/CD56	NBP2-15184	Novus Biologicals	H, R +	Mono	WB, ICC, IHC, ELISA, FC, IP	No
Nectin-1	AF2880	R&D Systems	H, M	Poly	WB	Yes
Nectin-2/CD112	AF3869	R&D Systems	M	Poly	WB	No
Nectin-3	AF3064	R&D Systems	M	Poly	WB, IHC, FC	Yes
Nectin-4	AF2659	R&D Systems	M	Poly	WB, IHC, FC	Yes
Neprilysin	AF1182	R&D Systems	M	Poly	WB, IHC, ELISA, FC, ELISA, IP	Yes
Neprilysin (Ectodomain)	MAB1126	R&D Systems	H, M	Mono	WB, IHC	No
Nestin	NB300-265	Novus Biologicals	H (Rodent Negative)	Poly	WB, ICC	Yes
Nestin	NB300-266	Novus Biologicals	H (Rodent Negative)	Mono	WB, ICC, IHC, FC	Yes
Netrin-1	AF1109	R&D Systems	M	Poly	WB, B/N	Yes
Netrin-4	AF1132	R&D Systems	M	Poly	WB, IHC, B/N	Yes
Netrin-G1a	AF1166	R&D Systems	M	Poly	WB	No
Netrin-G2a	MAB2744	R&D Systems	M	Mono	WB	No
NeuN	NBP1-77686	Novus Biologicals	H, M, R	Poly	ICC, IHC	Yes
Neuregulin-3/NRG3	AF753	R&D Systems	M	Poly	WB, IHC	Yes
Neurexin 1 β	AF4524	R&D Systems	R	Poly	WB	Yes
Neurexin 3	AF5269	R&D Systems	H, M	Poly	WB, IHC	Yes
Neurexophilin-1	AF4208	R&D Systems	R	Poly	WB	No
Neurexophilin-3	AF5098	R&D Systems	H, M, R	Poly	WB	No
Neuritin	AF283	R&D Systems	M	Poly	WB, ICC	No
Neurocan	AF5800	R&D Systems	M, R	Poly	WB, IHC	Yes
NeuroD1	AF2746	R&D Systems	H, M	Poly	WB, ICC	Yes

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Molecule	Catalog #	Brand	Species	Clonality	Applications	Conjugates
NeuroD2	AF2775	R&D Systems	H, M	Poly	WB	No
Neurofascin	AF3235	R&D Systems	H, M, R	Poly	WB, IHC	No
Neurofibromin 1	NB300-155	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC	No
Neurogenin-1	MAB3524	R&D Systems	M	Mono	WB	No
Neurogenin-2	MAB3314	R&D Systems	H, R	Mono	IHC	No
Neurogenin-3	AF3444	R&D Systems	M	Poly	WB	Yes
Neuroglycan C	AF5665	R&D Systems	M, R	Poly	WB, IHC	No
Neurogranin	AF7947	R&D Systems	H, M, R	Poly	WB, IHC	No
Neurokinin 1 Receptor	NB300-119	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC, FC	Yes
Neurokinin B	NB300-201	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC	Yes
Neuroigin 1	AF4340	R&D Systems	H, R	Poly	WB, IHC	Yes
Neuroigin 2	AF5645	R&D Systems	H, R	Poly	WB	No
Neuroigin 4	AF5158	R&D Systems	M	Poly	WB, IHC	No
Neurolysin	AF3814	R&D Systems	H, M, R	Poly	WB, IP	No
Neuromedin B Receptor	MAB47281	R&D Systems	M	Mono	IHC	No
Neuronal Pentraxin Receptor	AF4414	R&D Systems	M	Poly	WB, IHC	No
Neuropeptide Y	MAB8517	R&D Systems	H	Mono	IHC	No
Neurophysin II	AF009	R&D Systems	M	Poly	WB, IHC	No
Neuropilin-1	AF566	R&D Systems	M, R	Poly	WB, IHC, B/N, FC	Yes
Neuropilin-2	AF567	R&D Systems	M, R	Poly	WB, B/N	Yes
Neuroplastin 65	AF5360	R&D Systems	H, M	Poly	WB, IHC	Yes
Neuropoietin	AF2709	R&D Systems	M	Poly	WB	Yes
Neurturin	AF477	R&D Systems	H, M	Poly	WB, IHC, B/N	No
NF2/Merlin	MAB5616	R&D Systems	M	Mono	WB	No
NFκB p65	NB100-56647	Novus Biologicals	H, M, R	Poly	WB, SW	No
NFκB p105/p50	NB100-56583	Novus Biologicals	H	Mono	WB, IHC	Yes
NF-H	NB300-135	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC, ELISA	No
NF-L	NB300-132	Novus Biologicals	H, M, R +	Mono	WB, ICC, IHC, SW	No
NF-M	NB300-133	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC	No
NG2/MCSP	MAB6689	R&D Systems	M	Mono	IHC	No
β-NGF	AF-556-NA	R&D Systems	R	Poly	WB, IHC, B/N, ELISA	Yes
NGF Receptor	AF1157	R&D Systems	M	Poly	WB, IHC	Yes
NGF Receptor/TNFRSF16/p75NTR	NBP2-36729	Novus Biologicals	R	Mono	WB, ICC, IHC, ELISA	No
NGL-1/LRRC4C	MAB4899	R&D Systems	M	Mono	IHC	Yes
NGL-3/LRRC4B	MAB69191	R&D Systems	M	Mono	WB	No
NgR2/NgRH1	AF2776	R&D Systems	M	Poly	WB	No
NgR3/NgRH2	MAB2920	R&D Systems	M	Mono	WB	Yes
Nicastrin	MAB53781	R&D Systems	M	Mono	WB	No
NMDA Receptor 1	NB300-118	Novus Biologicals	H, M, R	Mono	WB, ICC, IHC, IP	No
NMDA Receptor 2A	NB300-105	Novus Biologicals	H, M, R +	Poly	WB, IHC, IP	No
NMDA Receptor 2B	NB300-106	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC, FC, IP	No
iNOS	NB300-605	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC	No
nNOS	AF2416	R&D Systems	M	Poly	WB, IHC	No
Noggin	AF719	R&D Systems	M	Poly	WB, ICC, IHC	Yes
Nogo Receptor	AF1440	R&D Systems	M	Poly	WB	Yes
Nogo-A (aa 2-172)	AF3098	R&D Systems	R	Poly	WB, IHC	No
Nogo-B	AF6034	R&D Systems	H, M	Poly	WB, IHC	No
Nogo-C	MAB5766	R&D Systems	M	Mono	IHC	No

Species Key: H Human, M Mouse, R Rat, + Additional Species Available **Applications Key:** B/N (Blocking/Neutralization), CD (Cell Depletion), ChIP (Chromatin Immunoprecipitation), DB (Dot Blot), ELISA (ELISA Capture and/or Detection), FC (Flow Cytometry), ICC (Immunocytochemistry), IHC (Immunohistochemistry), IP (Immunoprecipitation), PEP-ELISA (Peptide-ELISA), TCS (T Cell Stimulation), TSI (Inhibition of T Cell Function), RI (Radioimmunoassay), SW (Simple Western™), and WB (Western blot)

SELECT ANTIBODIES

Molecule	Catalog #	Brand	Species	Clonality	Applications	Conjugates
Notch1	NB100-78486	Novus Biologicals	H, M, R (Negative)	Mono	WB, ICC, IHC, FC, IP	No
NPR-1	MAB3974	R&D Systems	M	Mono	IHC	No
NRAGE	AF3835	R&D Systems	H, M, R	Poly	WB	No
NrCAM	AF2034	R&D Systems	M	Poly	WB, IHC	Yes
NRG1 Isoform GGF2	AF2015	R&D Systems	M	Poly	WB	Yes
NRG1- α /HRG1- α	AF-296-NA	R&D Systems	M	Poly	WB, IHC, B/N	Yes
NRG1- β 1/HRG1- β 1	AF-396-NA	R&D Systems	M	Poly	WB, IHC, B/N	Yes
NSE	NB110-58870	Novus Biologicals	H, M, R	Poly	WB, ICC, SW	No
NSP 5 α 3 α	NB100-517	Novus Biologicals	H	Poly	WB, ICC, IP	Yes
NT-3	MAB267	R&D Systems	M	Mono	B/N, ELISA	No
NT-4	AF-268-NA	R&D Systems	M	Poly	WB, IHC, B/N	Yes
NTF3	NBP1-47892	Novus Biologicals	H	Mono	WB, ICC, IHC	No
NUMB	NB500-178	Novus Biologicals	H, M +	Poly	WB, ICC, SW	Yes
NUR77	NB100-56745	Novus Biologicals	H, M	Poly	WB, ICC, ChIP, IP	No
Oct-3/4	MAB1759	R&D Systems	H, M	Mono	WB, ICC, FC	No
Oct-4A	NL17591R	R&D Systems	M	Mono	ICC	Yes
Olig 1	NBP1-28666	Novus Biologicals	M, R	Poly	WB, ICC, IHC, IP	No
Olig 2	NBP1-28667	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC, IP	No
Olig 3	NBP1-88627	Novus Biologicals	H	Poly	WB, ICC, IHC	No
Oligodendrocyte Marker O1	MAB1327	R&D Systems	H, M, R +	Mono	ICC, FC	No
Oligodendrocyte Marker O4	MAB1326	R&D Systems	H, M, R +	Mono	ICC, FC	No
OMgp	AF1674	R&D Systems	M	Poly	WB	No
OPA1	NB110-55290	Novus Biologicals	H, M, R +	Poly	WB, IHC, SW	Yes
κ Opioid Receptor	MAB8867	R&D Systems	R	Mono	ICC	No
μ Opioid Receptor	MAB8629	R&D Systems	R	Mono	IHC	No
μ Opioid Receptor	NLS234	Novus Biologicals	H	Poly	IHC	No
Optineurin	NBP1-84682	Novus Biologicals	H, M	Poly	WB, ICC, IHC	No
Park7/DJ-1	NB100-483	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC, IP	No
Parkin	AF1438	R&D Systems	M	Poly	WB, IHC	No
Parkin	NB300-429	Novus Biologicals	H	Poly	WB, IP	No
PAX6	NB300-750	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC, IP	No
PCNA	NB500-106	Novus Biologicals	H, M, R +	Mono	WB, ICC, IHC, ELISA, FC, IP, SW	Yes
PDGF Receptor α	AF1062	R&D Systems	M	Poly	WB, IHC, B/N	Yes
PDGF Receptor β	AF1042	R&D Systems	M	Poly	WB, IHC	Yes
PGP9.5/UCHL-1	NB300-676	Novus Biologicals	H, M	Poly	WB, ICC, IHC, SW	Yes
PINK1	BC100-494	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC, IP, PEP-ELISA	No
PPAR γ	NBP1-61399	Novus Biologicals	H, M, R	Poly	WB, IHC, ELISA	No
Presenilin-1 (C-Term)	AF166	R&D Systems	M	Poly	WB, IHC	Yes
Presenilin-1 (N-Term)	MAB1491	R&D Systems	M	Mono	WB	No
Presenilin-2 (C-Term)	AF197	R&D Systems	M	Poly	WB	Yes
Presenilin-2 (N-Term)	AF153	R&D Systems	M	Poly	WB, IHC	No
Progranulin	AF2420	R&D Systems	M	Poly	WB, IHC	Yes
Protogenin	AF4919	R&D Systems	M	Poly	WB, IHC	Yes
PSD-93	NB300-546	Novus Biologicals	R	Poly	WB, ICC, IHC	No
PSD-95	NB300-556	Novus Biologicals	H, M, R +	Mono	WB, ICC, IHC, B/N, ChIP, FC, IP	Yes
RAGE	AF1145	R&D Systems	M	Poly	WB, IHC, B/N	Yes
RbAp48	NBP1-41202	Novus Biologicals	H, M	Mono	WB, ICC, IHC, IP	No
RCAN1	NBP1-46853	Novus Biologicals	H, M	Poly	WB, IHC	Yes

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SELECT ANTIBODIES

Molecule	Catalog #	Brand	Species	Clonality	Applications	Conjugates
Reelin	MAB3820	R&D Systems	M	Mono	WB	No
RGM-A	MAB2458	R&D Systems	H, M +	Mono	WB	No
RGM-B	AF3630	R&D Systems	M	Poly	WB, FC	No
Rhodopsin	NBP2-25160	Novus Biologicals	H, M, R +	Mono	WB, ICC	No
ROBO1	AF1749	R&D Systems	R	Poly	WB, IHC	Yes
ROBO2	MAB3147	R&D Systems	M	Mono	WB, ICC, FC	No
ROBO3	AF3076	R&D Systems	M	Poly	WB, IHC	Yes
ROBO4	MAB2454	R&D Systems	M	Mono	WB, FC	No
RPE65	NB100-355	Novus Biologicals	H, M, R +	Mono	WB, ICC, IHC, FC	Yes
R-Spondin 1	MAB4658	R&D Systems	H, M	Mono	WB	No
R-Spondin 2	MAB3266	R&D Systems	M	Mono	B/N	No
R-Spondin 3	AF35001	R&D Systems	M	Poly	B/N	No
R-Spondin 4	AF4106	R&D Systems	M	Poly	B/N	No
S100A4	NBP2-36431	Novus Biologicals	H	Mono	WB, ICC, IHC	No
S100A9	NB110-89726	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC, SW	No
S100B	NBP1-41373	Novus Biologicals	H, M, R	Mono	WB, ICC, IHC	No
SARM1	AF7037	R&D Systems	H	Poly	WB, ICC, IP	No
Semaphorin 3E	AF3239	R&D Systems	H, M	Poly	WB, ICC, IHC	No
Semaphorin 4D	MAB52351	R&D Systems	M	Mono	FC	Yes
Serotonin N-Acetyltransferase	NB100-135	Novus Biologicals	H +	Poly	WB, ICC	Yes
SHANK1	NB300-167	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC	No
SHH	NBP2-22139	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC	No
SLC31A1	NB100-402	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC	Yes
Slit2	AF5444	R&D Systems	M	Poly	IHC	No
Slit3	MAB3629	R&D Systems	M	Mono	IHC	No
SLITRK1	MAB30091	R&D Systems	M	Mono	IHC	No
SLITRK2	AF2657	R&D Systems	M	Poly	WB	Yes
SLITRK5	AF2587	R&D Systems	M	Poly	WB	Yes
SLITRK6	AF7317	R&D Systems	M	Poly	WB	No
SMAD6	NB100-56440	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC, SW	No
SMN	NB100-1936	Novus Biologicals	H, M, R +	Mono	WB, ICC, IHC, ELISA, IP	Yes
Smoothed	NBP2-24543	Novus Biologicals	H, M +	Poly	WB, IHC	No
SNAP23	AF6306	R&D Systems	M	Poly	WB, ICC	No
SNAP25	AF5946	R&D Systems	H, M, R	Poly	WB, ICC	No
SNAP29	AF7869	R&D Systems	M	Poly	WB, ICC	No
Snapi	MAB7795	R&D Systems	H, M	Mono	WB	No
SOD1	NBP2-24915	Novus Biologicals	H, M, R +	Poly	WB, IHC	No
Sodium Potassium ATPase α 1	NB300-146	Novus Biologicals	H, M, R +	Mono	WB, ICC, IHC, FC	No
Somatostatin Receptor 1	NB120-2366	Novus Biologicals	M, R	Poly	ICC, IHC	No
Somatostatin Receptor 2	NB300-157	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC, FC, IP	No
Somatostatin Receptor 3	NB100-74538	Novus Biologicals	H	Poly	WB, ICC, IHC	No
Somatostatin Receptor 4	NB100-74539	Novus Biologicals	H, M	Poly	WB, ICC, IHC	No
Somatostatin Receptor 5	NB100-56498	Novus Biologicals	H	Poly	WB, IHC	No
SorLA	AF5699	R&D Systems	H, M	Poly	WB, IHC	No
Sortilin	AF2934	R&D Systems	M	Poly	WB, IHC, B/N	Yes
SOX2	MAB2018	R&D Systems	H, M	Mono	WB, ICC, FC, SW	Yes
SOX2	NB110-37235	Novus Biologicals	H, M +	Poly	WB, ICC, IHC, FC	Yes
Spectrin β 3	NB110-58346	Novus Biologicals	H	Poly	WB, IHC, IP	Yes

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SELECT ANTIBODIES

Molecule	Catalog #	Brand	Species	Clonality	Applications	Conjugates
Substance P	NB300-187	Novus Biologicals	H, M, R	Poly	ICC, IHC	No
SUM01	AF3289	R&D Systems	H, M	Poly	WB	No
SUM02/3/4	AF3020	R&D Systems	H, M	Poly	WB	No
Survivin	NB500-201	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC, ChIP, ELISA, FC, IP, SW	Yes
Synapsin I	NB300-104	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC, IP	No
Synaptophysin	NB300-653	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC, IP	No
Synaptotagmin-1	MAB43641	R&D Systems	R	Mono	WB, IHC, IP	No
Syntabulin	AF5544	R&D Systems	M	Poly	WB	No
Syntaxin 1A	AF7237	R&D Systems	H, M, R	Poly	WB, ICC	No
Syntaxin 1B	MAB6848	R&D Systems	H, M, R	Mono	WB	No
Syntaxin 5	AF5687	R&D Systems	M	Poly	WB	No
Syntaxin 7	AF5478	R&D Systems	H, M, R	Poly	WB, ICC	No
Syntaxin 12	MAB6617	R&D Systems	M	Mono	WB	No
Syntaxin 16	AF5648	R&D Systems	M	Poly	WB	No
Syntaxin-BP1	AF5675	R&D Systems	H, M, R	Poly	WB, IHC	No
Synuclein-α	NBP1-26380	Novus Biologicals	H, M	Mono	WB, ICC, IHC, FC	Yes
Synuclein-α	AF1338	R&D Systems	M	Poly	WB, IHC	Yes
Synuclein-β	MAB5528	R&D Systems	M	Mono	WB, IHC	No
Synuclein-γ	MAB5745	R&D Systems	M	Mono	WB, IHC	No
TACE/ADAM17 (Ectodomain)	MAB9301	R&D Systems	M	Mono	WB, FC, IP	No
TACE/ADAM17 (Cytosolic)	MAB2129	R&D Systems	M	Mono	WB, IP	No
TARDBP	NB110-55376	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC	Yes
Tau	NBP2-25162	Novus Biologicals	H, M, R	Mono	WB, ICC	No
Tau (p Ser416)	NB110-93503	Novus Biologicals	R	Poly	WB	No
TBR1	NBP2-15133	Novus Biologicals	M	Poly	WB	No
Tenascin C	NB110-68136	Novus Biologicals	H, M, R	Mono	WB, ICC, IHC, ELISA, FC	Yes
TRAF6	NB100-56179	Novus Biologicals	H, M, R +	Poly	WB, IHC, IP	No
TrkA	AF1056	R&D Systems	R	Poly	WB, IHC	Yes
TrkB	AF1494	R&D Systems	M	Poly	WB, IHC, B/N	Yes
TrkC	AF1404	R&D Systems	M	Poly	WB, IHC, B/N	Yes
TRPA1	NB110-40763	Novus Biologicals	H, M +	Poly	WB, ICC, IHC	Yes
TRPM2	NB110-81601	Novus Biologicals	M, R	Poly	WB, ICC, IHC	Yes
TRPM8	NB200-145	Novus Biologicals	H, M +	Poly	WB, ICC, IHC, ELISA	No
TRPV1	NBP1-71774	Novus Biologicals	H, M	Poly	ICC, IHC	Yes
β-I Tubulin	MAB8527	R&D Systems	H	Mono	WB, ICC	No
β-III Tubulin	NBP1-42568	Novus Biologicals	H	Mono	WB, ICC, ELISA, FC, SW	No
β-III Tubulin (Neuron-Specific)	MAB1195	R&D Systems	All Species	Mono	WB, ICC, SW	Yes
Tyrosine Hydroxylase	NB300-109	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC, SW	No
Tyrosine Hydroxylase	AF7566	R&D Systems	H, M, R	Poly	WB, ICC, SW	No
UNC13A	AF6214	R&D Systems	H, M	Poly	WB	No
VAMP1/Synaptobrevin 1	NB100-63292	Novus Biologicals	H +	Mono	WB, IHC, ELISA	No
VAMP2/Synaptobrevin 2	NB300-595	Novus Biologicals	M, R +	Poly	WB, IHC, IP	No
VEGF 165	AF-293-NA	R&D Systems	M	Poly	WB, ICC, B/N	Yes
VEGF Receptor 1	AF471	R&D Systems	M	Poly	WB, B/N	Yes
Vimentin	NB300-223	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC	No
VMAT2	NBP1-69750	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC	Yes
VMAT2	MAB8327	R&D Systems	H	Mono	WB, IHC, FC	No
xCT	NB300-318	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC, FC, SW	Yes

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ELISAs

Quantikine® ELISA Kits

R&D Systems® Quantikine® ELISA kits are complete, fully validated, ready-to-run sandwich ELISAs that are considered the industry gold standard.

Legendary Reproducibility

- Our assays are calibrated by ELISA against a master standard to ensure that our kits generate accurate data consistently over time. Results today can be compared to last month or even last year, and will be comparable to future results generated.

Confidence with Controls

- Our assays have controls with assigned ranges that confirm assay performance.

Unrivalled Reputation

- Our ELISA kits are the most referenced on the market.

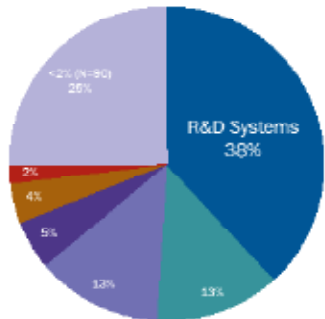
High Specificity

- Every complete ELISA kit is extensively tested against related molecules and common interfering substances to ensure no cross-reactivity or interference.

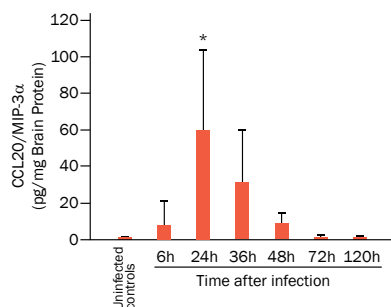
Accurate Detection of Natural Proteins

- Our antibody pairs recognize the supplied recombinant standard and natural proteins in biological samples in a parallel manner.

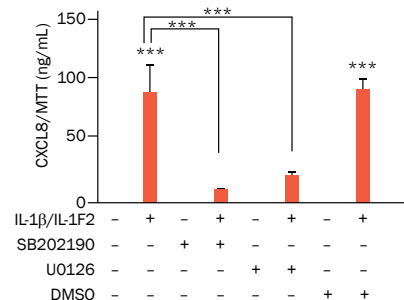
Most Referenced ELISA Manufacturer



ELISA Citations by Vendor. A literature survey of 1,125 manuscripts published in 2013, containing 15,180 product citations from 18 different journals related to cancer, immunology, neuroscience, and stem cells, was conducted to determine the number of citations referencing the use of R&D Systems® ELISA kits compared to the number referencing ELISA kits supplied by other companies. Of the 792 ELISA citations identified in the survey, 38% cited the use of our ELISA kits. The percentage of citations attributed to five other ELISA suppliers is also shown (clockwise from R&D Systems, green-red sections). The final section in the pie chart (25%, light blue section) includes 198 citations referencing products from 90 different companies. All companies listed under this category had less than 2% of the total number of citations.



CCL20/MIP-3α Expression during Acute Pneumococcal Meningitis. CCL20/MIP-3α levels were measured in brain homogenates of C57BL/6 mice infected with *Streptococcus pneumoniae* type D39 at various time points after infection using the Mouse CCL20/MIP-3α Quantikine® ELISA Kit (R&D Systems, Catalog # MCC200). Brain CCL20/MIP-3α levels were also analyzed in uninfected controls. * $P < 0.001$ compared with uninfected controls. Graph from Klein, M. et al. (2014) *PLoS One* 9:e93057.



IL-1β/IL-1F2-Induced CXCL8/IL-8 Expression in Astrocytes is Mediated by MAP Kinases. Human astrocyte cell cultures were treated with either an inhibitor specific for p38 (SB202190) or ERK (U0126), or DMSO (control) for 2 hours, followed by treatment with Recombinant Human IL-1β/IL-1F2 (Catalog # 201-LB). The levels of CXCL8/IL-8 in cell culture supernatants were measured using the Human CXCL8/IL-8 Quantikine® ELISA Kit (Catalog # D8000C). CXCL8/IL-8 protein levels were normalized to the number of viable cells as measured using a MTT assay. *** $P < 0.001$. Graph from Mamik, M.K. and A. Ghorpade (2012) *PLoS One* 7:e45596. All cited reagents are from R&D Systems.

DuoSet® ELISA Development Systems

R&D Systems® DuoSet® ELISA Development Systems allow you to develop the immunoassay that you need using our gold-standard ELISA reagents. They are an economical alternative to buying separate antibodies and protein standards when complete kits are not an option.

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- Our ELISA development systems are adaptable to multiple platforms, such as Gyrolab™, MSD®, Luminex®, and 384-well plates, and we offer tailored protocols and ancillary kits.

Trustworthy Performance

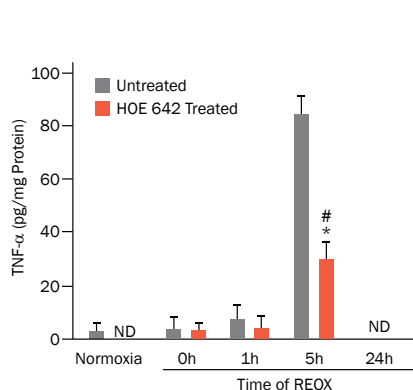
- Capture and detection antibodies are carefully selected to ensure their flawless performance as a sandwich ELISA antibody pair.

We Have What You Need

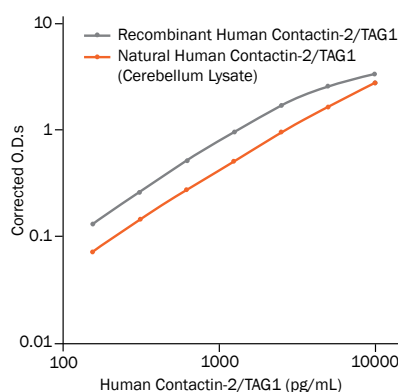
- We offer the largest selection of analytes (>750) for the most species.

Economical

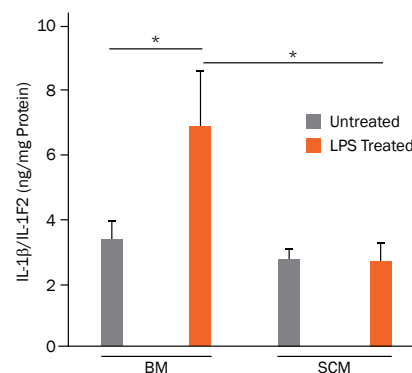
- Many analytes are offered in a smaller 5-plate pack.



TNF- α Release from Hippocampal Astrocytes Following OGD/REOX. Primary astrocyte cell cultures prepared from the hippocampus of post-natal day 3-4 mice were subjected to *in vitro* ischemia. Briefly, cell cultures were exposed to either 2 hours of normoxia or 2 hours of oxygen and glucose deprivation (OGD) followed by varying times of reoxygenation (REOX). During the REOX phase, astrocytes were either untreated (gray bars) or treated with HOE 642, a Na⁺/H⁺ exchanger isoform 1 inhibitor (orange bars). Levels of TNF- α in the culture medium were measured using the Mouse TNF- α DuoSet® ELISA Development System (R&D Systems, Catalog # DY410). ND: not detectable. * $P < 0.05$ OGD/REOX versus normoxic control. # $P < 0.05$ OGD/REOX HOE 642 treated versus OGD/REOX untreated. Graph from Cengiz, P. et al. (2014) *PLoS One* 9:e84294.



Recognition of Recombinant and Natural Human Contactin-2/TAG1. Serial dilutions of a Contactin-2/TAG1 protein standard (gray line), which was generated from Recombinant Human Contactin-2/TAG1 (Catalog # 1714-CN), or natural Contactin-2/TAG1 present in human cerebellum tissue lysates (orange line) were quantified using the Human Contactin-2/TAG1 DuoSet® ELISA Development System (Catalog # DY1714). The DuoSet® ELISA detected both recombinant and natural proteins in a parallel manner across a range of concentrations. All cited reagents are from R&D Systems.



LPS Specifically Induces Brain Microglia to Secrete IL-1 β /IL-1F2. Primary microglia cell cultures prepared from either brain (BM) or spinal cord (SCM) of post-natal day 1 Sprague-Dawley rats were treated with lipopolysaccharide (LPS) for 24 hours or remained untreated. Levels of IL-1 β /IL-1F2 were measured in the media from treated (orange bars) and untreated (gray bars) BM and SCM cultures using the Rat IL-1 β /IL-1F2 DuoSet® ELISA Development System (R&D Systems, Catalog # DY501). * $P < 0.03$ BM LPS Treated versus BM Untreated, and BM LPS Treated versus SCM LPS Treated. Graph from Baskar Jesudasan, S.J. et al. (2014) *PLoS One* 9:e99443.

SELECT ELISAs

Molecule	Species	Catalog #	Type
14-3-3ζ	H	DY2669	DuoSet®
ACE/CD143	H	DACE00	Quantikine®
ACE/CD143	M	DY1513	DuoSet®
Acetylcholinesterase	H	DACHE0	Quantikine®
Activin A	H, M, R	DAC00B	Quantikine®
ADAM12	H	DAD120	Quantikine®
ADAMTS1	H	DY2197	DuoSet®
ADAMTS13	H	DADT130	Quantikine®
Aggrecan	H	DY1220	DuoSet®
Agrin	R	DY550	DuoSet®
ALCAM/CD166	M	DY1172	DuoSet®
ALCAM/CD166	H	DY656	DuoSet®
Amyloid β (aa 1–40)	H	DAB140B	Quantikine®
Amyloid β (aa 1–42)	H	DAB142	Quantikine®
Apolipoprotein E	H	DAPE00	Quantikine®
APP	H	DY850	DuoSet®
Artemin	H	DY2589	DuoSet®
Attractin	H	DATRN0	Quantikine®
Axl	H	DY154	DuoSet®
Axl	M	DY854	DuoSet®
BACE-1	H	DY931	DuoSet®
BDNF (Free)	H	DBD00	Quantikine®
BDNF (Total)	H, M, R, Ca, P	DBNT00	Quantikine®
BDNF (Pro form)	H	DY3175	DuoSet®
BMP-2	H	DY355	DuoSet®
Butyrylcholinesterase	H	DBCHE0	Quantikine®
Calbindin D	H	DCALD0	Quantikine®
Carbonic Anhydrase IX	H	DY2188	DuoSet®
Caspase-1	H	DCA100	Quantikine®
Caspase-3 (Active)	H	KM300	Quantikine®
CCL2/MCP-1	H	DCP00	Quantikine®
CCL2/JE/MCP-1	M, R	MJE00	Quantikine®
CCL3/MIP-1α	H	DMA00	Quantikine®
CCL3/MIP-1α	M	MMA00	Quantikine®
CCL4/MIP-1β	H	DMB00	Quantikine®
CCL4/MIP-1β	M	MMB00	Quantikine®
CCL5/RANTES	H	DRN00B	Quantikine®
CCL5/RANTES	M, R	MMR00	Quantikine®
CCL7/MCP-3	H	DCC700	Quantikine®
CCL11/Eotaxin	H	DTX00	Quantikine®
CCL11/Eotaxin	M	MME00	Quantikine®
CCL12/MCP-5	M	MCC120	Quantikine®
CCL17/TARC	H	DDN00	Quantikine®
CCL17/TARC	M	MCC170	Quantikine®
CCL18/PARC	H	DCL180B	Quantikine®
CCL20/MIP-3α	H	DM3A00	Quantikine®
CCL20/MIP-3α	M	MCC200	Quantikine®
CCL22/MDC	H	DMD00	Quantikine®
CCL22/MDC	M	MCC220	Quantikine®
CCL24/Eotaxin-2	H	DCC240B	Quantikine®

SELECT ELISAs

Molecule	Species	Catalog #	Type
CCL26/Eotaxin-3	H	DCC260	Quantikine®
CCL27/CTACK	H	DCC270	Quantikine®
CD14	H	DC140	Quantikine®
CD14	M	MC140	Quantikine®
CD23/Fcε RII	H	DCD230	Quantikine®
CD25/IL-2 Rα	H	DR2A00	Quantikine®
CD40 Ligand/TNFSF5	H	DCDL40	Quantikine®
CD40/TNFRSF5	H	DCCD40	Quantikine®
CD40/TNFRSF5	M	MCCD40	Quantikine®
CD117/c-kit	H	DSCR00	Quantikine®
CD163	H	DC1630	Quantikine®
Clusterin	H	DCLU00	Quantikine®
Clusterin	M	MCLU00	Quantikine®
CNTF	H	DNT00	Quantikine®
CNTF	R	DY557	DuoSet®
Contactin-2/TAG1	H	DY1714	DuoSet®
C-Reactive Protein	H	DCRP00	Quantikine®
C-Reactive Protein	M	MCRP00	Quantikine®
CX3CL1/Fractalkine	H	DCX310	Quantikine®
CX3CL1/Fractalkine	M	MCX310	Quantikine®
CXCL1/GROα	H	DGR00	Quantikine®
CXCL1/GROα	M	MKC00B	Quantikine®
CXCL1/GROα	R	RCN100	Quantikine®
CXCL2/GROβ	M	MM200	Quantikine®
CXCL2/GROβ	R	RCN300	Quantikine®
CXCL3/GROγ	R	RCN200	Quantikine®
CXCL4/PF4	H	DPF40	Quantikine®
CXCL4/PF4	M	MCX400	Quantikine®
CXCL5/ENA-78	H	DX000	Quantikine®
CXCL6/GCP-2	H	DGC00	Quantikine®
CXCL8/IL-8	H	D8000C	Quantikine®
CXCL9/MIG	H	DCX900	Quantikine®
CXCL9/MIG	M	MCX900	Quantikine®
CXCL10/IP-10	H	DIP100	Quantikine®
CXCL10/IP-10/CRG-2	M	MCX100	Quantikine®
CXCL11/I-TAC	H	DCX110	Quantikine®
CXCL12/SDF-1α	H	DSA00	Quantikine®
CXCL12/SDF-1α	M	MCX120	Quantikine®
CXCL13/BLC/BCA-1	H	DCX130	Quantikine®
CXCL13/BLC/BCA-1	M	MCX130	Quantikine®
CXCL16	H	DCX160	Quantikine®
Dkk-1	M	DY1765	DuoSet®
Dkk-1	H	DY1906	DuoSet®
Dkk-3	H	DY1118	DuoSet®
Dkk-4	H	DY1269	DuoSet®
DR3/TNFRSF25	H	DY943	DuoSet®
DR6/TNFRSF21	H	DY144	DuoSet®
E-Cadherin	H	DCADE0	Quantikine®
EGF	H	DEG00	Quantikine®

Species Key: H Human, M Mouse, R Rat, Ca Canine, Ms Multi-Species, P Porcine

SELECT ELISAs

Molecule	Species	Catalog #	Type
EGF	M	MEG00	Quantikine®
EGF R/ErbB1	H	DEGFR0	Quantikine®
EGF R/ErbB1	M	MEGFR0	Quantikine®
Endoglin/CD105	M	MNDG00	Quantikine®
Endothelin-1	Ms	DET100	Quantikine®
Enolase 2	H	DENL20	Quantikine®
E-Selectin/CD62E	H	DSLE00	Quantikine®
E-Selectin/CD62E	M	MES00	Quantikine®
Fas Ligand/TNFSF6	H	DFL00	Quantikine®
Fas Ligand/TNFSF6	M	MFL00	Quantikine®
Fas/TNFRSF6/CD95	H	DFS00	Quantikine®
α-Fetoprotein	M	MAFP00	Quantikine®
FGF acidic	H	DFA00B	Quantikine®
FGF basic	H	DFB50	Quantikine®
FGF basic	M, R	MFB00	Quantikine®
FGF-4	H	DY235	DuoSet®
FGF-9	H	DY273	DuoSet®
FGF-19	H	DF1900	Quantikine®
FGF-21	H	DF2100	Quantikine®
FGF-21	M, R	MF2100	Quantikine®
FGF-23	H	DY2604	DuoSet®
FGF-BP	H	DY1593	DuoSet®
Fibronectin	H	DFBN10	Quantikine®
Gas1	M	DY2644	DuoSet®
Gas6	M	MGAS60	Quantikine®
GASP-1/WFIKKNRP	H	DY2070	DuoSet®
GASP-2/WFIKKN	H	DY2136	DuoSet®
GDF-5/BMP-14	M	DY853	DuoSet®
GDF-8/Myostatin	Ms	DGDF80	Quantikine®
GDF-15	H	DGD150	Quantikine®
GDF-15	M, R	MGD150	Quantikine®
GNDF	H	DY212	DuoSet®
Glypican 3	H	DGLY30	Quantikine®
GM-CSF	H	DGM00	Quantikine®
GM-CSF	M	MGM00	Quantikine®
ICAM-1/CD54	H	DCD540	Quantikine®
ICAM-1/CD54	M	MIC100	Quantikine®
ICAM-1/CD54	R	RIC100	Quantikine®
ICAM-1/CD54 (Non Allele-Specific)	H	DCIM00	Quantikine®
IFN-γ	H	DIF50	Quantikine®
IFN-γ	M	MIF00	Quantikine®
IFN-γ	R	RIF00	Quantikine®
IGFBP-1 (Free)	H	DGB100	Quantikine®
IGFBP-2	H	DGB200	Quantikine®
IGFBP-3	H	DGB300	Quantikine®
IGFBP-3	M	MGB300	Quantikine®
IGF-I	H	DG100	Quantikine®
IGF-I	M, R	MG100	Quantikine®
IGF-I (Free)	H	DFG100	Quantikine®
IL-1α/IL-1F1	H	DLA50	Quantikine®

SELECT ELISAs

Molecule	Species	Catalog #	Type
IL-1 α /IL-1F1	M	MLA00	Quantikine [®]
IL-1 α /IL-1F1	R	RRA00	Quantikine [®]
IL-1 β /IL-1F2	H	DLB50	Quantikine [®]
IL-1 β /IL-1F2	M	MLB00C	Quantikine [®]
IL-1 β /IL-1F2	R	RLB00	Quantikine [®]
IL-1 β /IL-1F2 (Pro form)	H	DLBP00	Quantikine [®]
IL-1 RII	H	DR1B00	Quantikine [®]
IL-1ra/IL-1F3	H	DRA00B	Quantikine [®]
IL-1ra/IL-1F3	M	MRA00	Quantikine [®]
IL-2	H	D2050	Quantikine [®]
IL-2	M	M2000	Quantikine [®]
IL-2	R	R2000	Quantikine [®]
IL-3	H	D3000	Quantikine [®]
IL-3	M	M3000	Quantikine [®]
IL-4	H	D4050	Quantikine [®]
IL-4	M	M4000B	Quantikine [®]
IL-4	R	R4000	Quantikine [®]
IL-5	H	D5000B	Quantikine [®]
IL-5	M	M5000	Quantikine [®]
IL-6	H	D6050	Quantikine [®]
IL-6	M	M6000B	Quantikine [®]
IL-6	R	R6000B	Quantikine [®]
IL-6 R α	H	DR600	Quantikine [®]
IL-6 R α	M	MR600	Quantikine [®]
IL-7	M	M7000	Quantikine [®]
IL-10	H	D1000B	Quantikine [®]
IL-10	M	M1000B	Quantikine [®]
IL-10	R	R1000	Quantikine [®]
IL-11	H	D1100	Quantikine [®]
IL-12 p70	H	D1200	Quantikine [®]
IL-12 p70	M	M1270	Quantikine [®]
IL-12/IL-23 p40 (Allele-Specific)	M	M1240	Quantikine [®]
IL-12/IL-23 p40 (Non Allele-Specific)	M	MP400	Quantikine [®]
IL-12/IL-23 p40 Homodimer	H	DP400	Quantikine [®]
IL-13	H	D1300B	Quantikine [®]
IL-13	M	M1300CB	Quantikine [®]
IL-13 R α 2	M	M13RA2	Quantikine [®]
IL-15	H	D1500	Quantikine [®]
IL-16	H	D1600	Quantikine [®]
IL-17/IL-17A	H	D1700	Quantikine [®]
IL-17/IL-17A	M	M1700	Quantikine [®]
IL-17A/F Heterodimer	M	M17AF0	Quantikine [®]
IL-18 BPa	H	DBP180	Quantikine [®]
IL-19	H	D1900	Quantikine [®]
IL-20	H	DL200	Quantikine [®]
IL-22	H	D2200	Quantikine [®]
IL-22	M, R	M2200	Quantikine [®]
IL-23	H	D2300B	Quantikine [®]

Species Key: H Human, M Mouse, R Rat, Ca Canine, Ms Multi-Species, P Porcine

SELECT ELISAs

Molecule	Species	Catalog #	Type
IL-23	M	M2300	Quantikine®
IL-27 p28/IL-30	M	M2728	Quantikine®
IL-33	H	D3300	Quantikine®
IL-33	M, R	M3300	Quantikine®
IL-34	H	D3400	Quantikine®
IL-34	M	M3400	Quantikine®
KGF/FGF-7	H	DKG00	Quantikine®
LAP (TGF-β1)	H	DLAP00	Quantikine®
M-CSF	H	DMC00B	Quantikine®
M-CSF	M	MMC00	Quantikine®
Meteorin	M	DY3475	DuoSet®
Meteorin-like/METRNL	M	DY6679	DuoSet®
MMP-2 (Total)	H, M, R, Ca, P	MMP200	Quantikine®
MMP-3 (Total)	H	DMP300	Quantikine®
MMP-3 (Total)	M	MMP300	Quantikine®
MMP-7 (Total)	H	DMP700	Quantikine®
MMP-8 (Total)	H	DMP800	Quantikine®
MMP-9 (Total)	H	DMP900	Quantikine®
MMP-9 (Total)	M	MMPT90	Quantikine®
MMP-9 (Total)	R	RMP900	Quantikine®
MMP-9/Lipocalin-2 Complex	H	DM9L20	Quantikine®
MSP/MST1	M	MMSP0	Quantikine®
Myeloperoxidase	H	DMYE00B	Quantikine®
Myeloperoxidase	M	DY3667	DuoSet®
NCAM-1/CD56	H	DY2408	DuoSet®
Nectin-4	H	DNEC40	Quantikine®
Neprilysin/CD10	M	DY1126	DuoSet®
Neprilysin/CD10	H	DY1182	DuoSet®
Neuregulin-1 β1	H	DY377	DuoSet®
Neuropilin-1	H	DNRP10	Quantikine®
β-NGF	H	DY256	DuoSet®
β-NGF	R	DY556	DuoSet®
NGF R/TNFRSF16	M	DY1157	DuoSet®
NGF R/TNFRSF16	H	DY367	DuoSet®
NT-3	H	DY267	DuoSet®
NT-4	H	DY268	DuoSet®
Park7/DJ-1	H	DY3995	DuoSet®
Park7/DJ-1	M	DY8136	DuoSet®
PDGF-AA	H, M	DAA00B	Quantikine®
PDGF-AA	H	DY221	DuoSet®
PDGF-AB	H	DHD00C	Quantikine®
PDGF-AB	H	DY222	DuoSet®
PDGF-AB	M, R	MHD00	Quantikine®
PDGF-BB	H	DBB00	Quantikine®
PDGF-BB	M, R	MBB00	Quantikine®
PDGF-CC	H	DCC00	Quantikine®
PDGF-DD	H	DDD00	Quantikine®
Pentraxin 2	M	MPTX20	Quantikine®
Pentraxin 3	H	DPTX30	Quantikine®
Pentraxin 3	M	MPTX30	Quantikine®

SELECT ELISAs

Molecule	Species	Catalog #	Type
Persephin	H	DY2388	DuoSet®
Presenilin-1 (N-Terminal)	H	DY149	DuoSet®
Progranulin	H	DPGRN0	Quantikine®
Progranulin	M	DY2557	DuoSet®
RAGE	H	DRG00	Quantikine®
RAGE	R	DY1616	DuoSet®
RAGE	M	MRG00	Quantikine®
Resistin	H	DRSN00	Quantikine®
RGM-A	M, R	MRGMA0	Quantikine®
RGM-B	H	DY3630	DuoSet®
ROBO1	R	DY1749	DuoSet®
ROBO3	H	DY3076	DuoSet®
R-Spondin 1	H	DY4645	DuoSet®
R-Spondin 3	H	DY3500	DuoSet®
R-Spondin 4	H	DY4575	DuoSet®
SCF/c-kit Ligand	H	DCK00	Quantikine®
SCF/c-kit Ligand	M	MCK00	Quantikine®
Semaphorin 3E	H	DY3239	DuoSet®
Serpin E1/PAI-1	H	DTSE100	Quantikine®
Sonic Hedgehog	M	DY461	DuoSet®
Sonic Hedgehog (N-Terminus)	M	MSHH00	Quantikine®
SP-D	M	MSFPD0	Quantikine®
Survivin	H	DSV00	Quantikine®
TACE/ADAM17	H	DY930	DuoSet®
TFPI	H	DTFP10	Quantikine®
TGF- α	H	DTGA00	Quantikine®
TGF- β 1	H	DB100B	Quantikine®
TGF- β 1	M, R, Ca, P	MB100B	Quantikine®
TGF- β 2	H	DB250	Quantikine®
TGF- β 2	M, R, Ca, P	MB200	Quantikine®
Tie-1	H	DY5907	DuoSet®
Tie-2	H	DTE200	Quantikine®
TNF RI/TNFRSF1A	H	DRT100	Quantikine®
TNF RI/TNFRSF1A	M, R	MRT10	Quantikine®
TNF RII/TNFRSF1B	H	DRT200	Quantikine®
TNF RII/TNFRSF1B	M, R	MRT20	Quantikine®
TNF- α	H	DTA00C	Quantikine®
TNF- α	M	DY410	DuoSet®
TNF- α	R	RTA00	Quantikine®
TRAIL/TNFSF10	H	DTRL00	Quantikine®
Ubiquitin+1	H	DY703	DuoSet®
VCAM-1/CD106	H	DVC00	Quantikine®
VCAM-1/CD106	M	MVC00	Quantikine®
VEGF	H	DVE00	Quantikine®
VEGF	M	MMV00	Quantikine®
VEGF	R	RRV00	Quantikine®
VEGF-C	H	DVEC00	Quantikine®
VEGF-D	H	DVED00	Quantikine®

Species Key: H Human, M Mouse, R Rat, Ca Canine, Ms Multi-Species, P Porcine

MULTIANALYTE TESTING

Proteome Profiler™ Antibody Arrays

R&D Systems® Proteome Profiler™ Antibody Arrays are highly efficient, qualitative tools that utilize a simple two-site sandwich assay principle to detect the presence of multiple analytes in a single sample.

Cost-Effective Screening Method

- Each array offers a quick and inexpensive analysis of many analytes simultaneously, in less time than it takes to perform a Western blot.

No Specialized Equipment Needed

- They are designed to utilize the same data collection equipment used for Western blots.

Wide Selection

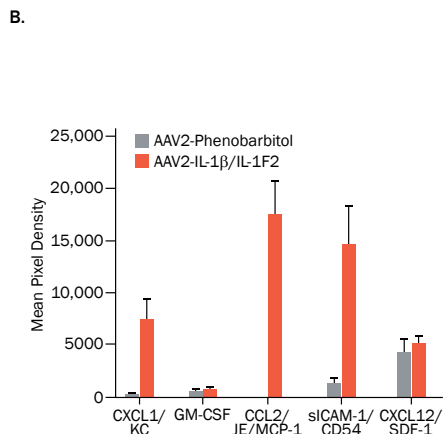
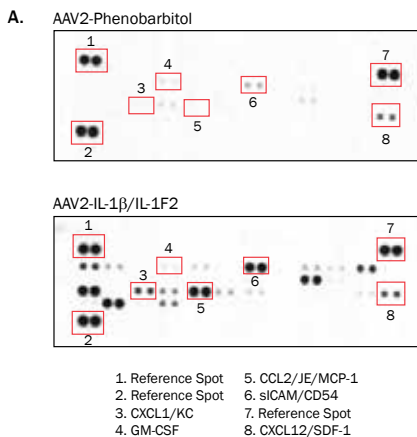
- Choose from over 25 arrays for the detection of both intracellular and extracellular factors from a broad variety of sample types.

User-Friendly Design

- Each array is stamped with an identification number for easy record keeping and contains reference spots in three corners for orientation purposes.

Multiple Detection Methods Available

- Arrays can utilize either chemiluminescence or LI-COR® infrared fluorescence detection.*



Cytokines that were Newly Expressed

- | | |
|---------------------------------------|--------------------|
| 1. C5/C5a (Complement Component 5/5a) | 5. MIP-1α (CCL3) |
| 2. sICAM-1 (CD54) | 6. RANTES (CCL5) |
| 3. IL-1β (IL-1F2) | 7. TNF-α (TNFSF1A) |
| 4. IP-10 (CXCL10) | 8. IL-1ra (IL-1F3) |

Cytokines with Changes in Expression Levels

- | | |
|-------------------------|----------------------|
| 1. G-CSF (CSF3, CSF-3) | 5. IL-8 (CXCL8) |
| 2. GM-CSF (CSFα, CSF-2) | 6. MCP-1 (CCL2) |
| 3. GROα (CXCL1) | 7. MIF (GIF, DER6) |
| 4. IL-6 | 8. Serpin E1 (PAI-1) |

Cytokine Profile of Cultured Human Astrocytes.

Human primary astrocyte cell cultures were treated with recombinant human IL-1β/IL-1F2 and TNF-α for 24 hours or remained untreated. Conditioned media from the cultures were harvested and assayed for the presence of 36 cytokines using the Proteome Profiler™ Human Cytokine Antibody Array (Catalog # ARY005). Cytokines that were newly expressed (red boxes) or whose expression changed (blue boxes) following treatment are highlighted. Image from Choi, S.S. et al. (2014) PLoS One 9:e92325.

*Select arrays only.

Luminex® Screening Assays

R&D Systems® Luminex® Screening Assays are designed to maximize multiplexing capacity and flexibility while maintaining assay specificity.

Most Flexible

- Choose from over 250 analytes.
- All analytes are available in either the polystyrene or magnetic microparticle format.

Largest Luminex® Multiplex Selection Available

- These screening assays allow you to maximize the use of your samples by simultaneously analyzing up to 100 analytes.

Unique Analytes Offered

- Over 25% of our portfolio of analytes are unique to us.

Luminex® Performance Assays

R&D Systems® Luminex® Performance Assays are designed to maximize assay accuracy and precision while preserving the benefits of multiplexing.

Most Accurate

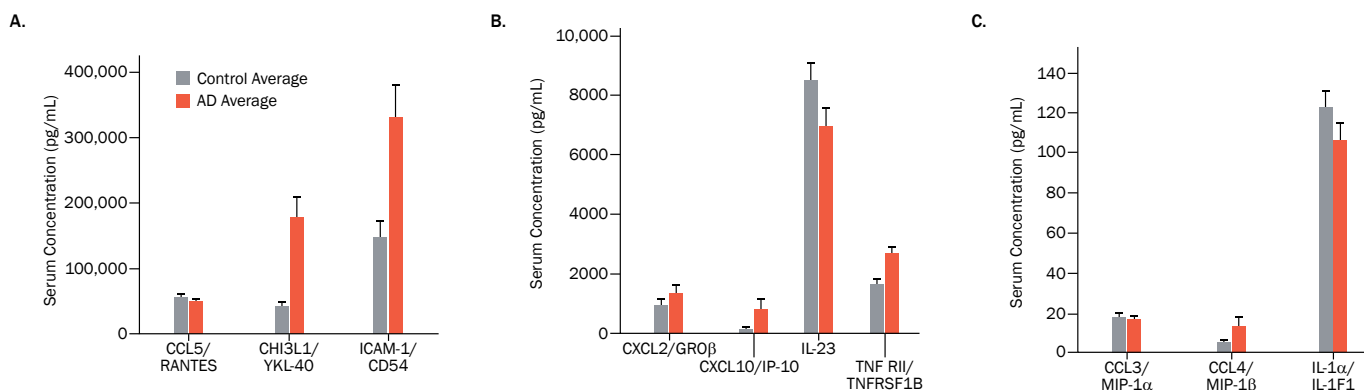
- Panel development and validation testing for these assays are similar to our gold-standard Quantikine® ELISA Assays.

Flexible

- Select panels are available in either the polystyrene or magnetic microparticle format.

Customizable to Fit Your Needs

- Users can choose their analytes of interest from established panels and select “premixed” or “end-user mixed” options.



Detection of Neuroinflammation and Alzheimer's Disease Biomarkers in Human Serum. The Human Luminex® Screening Assay (R&D Systems, Catalog # LXSAH) was used to measure 31 markers of neuroinflammation and Alzheimer's disease (AD) pathology in human serum samples. Samples were collected from individuals with AD (orange bars; N=20) and from apparently healthy individuals (gray bars; N=20); no medical histories were available. Histogram profiles for select analytes measured at high (A), moderate (B), and low (C) expression levels.

PROTEOME PROFILER™ ANTIBODY ARRAYS

Products	Description	Catalog #	Size
Human Angiogenesis Array Kit	Contains 4 membranes - each spotted in duplicate with 55 different angiogenesis antibodies	ARY007	1 Kit
Activin A, ADAMTS1, Angiogenin, Angiopoietin-1, Angiopoietin-2, Angiostatin/Plasminogen, Amphiregulin, Arterin, CCL2/MCP-1, CCL3/MIP-1 α , Coagulation Factor III/Tissue Factor, CXCL4/PF4, CXCL8/IL-8, CXCL16, DPPIV/CD26, EGF, EG-VEGF/PK1, Endoglin/CD105, Endostatin, Endothelin-1, FGF acidic, FGF basic, FGF-4, GDNF, GM-CSF, HB-EGF, HGF, IGFBP-1, IGFBP-2, IGFBP-3, IL-1 β /IL-1F2, KGF/FGF-7, LAP (TGF- β 1), Leptin, MMP-8, MMP-9, NRG1- β 1/HRG1- β 1, Pentraxin 3/TSG-14, PD-ECGF/Thymidine Phosphorylase, PDGF-AA, PDGF-AB/PDGF-BB, Persephin, PIGF, Prolactin, Serpin B5/Maspin, Serpin E1/PAI-1, Serpin F1/PEDF, Thrombospondin-1, Thrombospondin-2, TIMP-1, TIMP-4, u-Plasminogen Activator/Urokinase, Vasohibin, VEGF, VEGF-C			

Products	Description	Catalog #	Size
Mouse Angiogenesis Array Kit	Contains 4 membranes - each spotted in duplicate with 53 different angiogenesis antibodies	ARY015	1 Kit
ADAMTS1, Amphiregulin, Angiogenin, Angiopoietin-1, Angiopoietin-3, CCL2/JE/MCP-1, CCL3/MIP-1 α , Coagulation Factor III/Tissue Factor, CX3CL1/Fractalkine, CXCL1/KC, CXCL4/PF4, CXCL10/IP-10/CRG-2, CXCL12/SDF-1, CXCL16, Cyr61/CNN1, DLL4, DPPIV/CD26, EGF, Endoglin/CD105, Endostatin, Endothelin-1, FGF acidic, FGF basic, GM-CSF, HB-EGF, HGF, IGFBP-1, IGFBP-2, IGFBP-3, IL-1 α /IL-1F1, IL-1 β /IL-1F2, IL-10, KGF/FGF-7, Leptin, MMP-3 (pro and mature), MMP-8 (pro), MMP-9 (pro and active), NOV/CCN3, Osteopontin (OPN), PD-ECGF/Thymidine Phosphorylase, PDGF-AA, PDGF-AB/BB, Pentraxin-3/TSG-14, PIGF-2, Prolactin, Proliferin, Serpin E1/PAI-1, Serpin F1/PEDF, Thrombospondin-2, TIMP-1, TIMP-4, VEGF, VEGF-B			

Products	Description	Catalog #	Size
Human Apoptosis Array Kit	Contains 4 arrays - each spotted in duplicate with 35 different apoptosis-related antibodies	ARY009	1 Kit
Bad, Bax, Bcl-2, Bcl-x, Pro-Caspase-3, Cleaved Caspase-3, Catalase, Claspin, Clusterin, Cytochrome c, FADD, Fas/TNFRSF6/CD95, HIF-1 α , HO-1/HMOX1, HO-2/HMOX2, HSP27, HSP60, HSP70/HSPA1A, HTRA2/Omi, IAP-1 (HIAP-2), IAP-2 (HIAP-1), Livin, p21/CIP1/CDKN1A, p27/Kip1, Phospho-p53 (S15), Phospho-p53 (S46), Phospho-p53 (S392), PON2, Phospho-Rad17 (S635), SMAC/Diablo, Survivin, TNF R1/TNFRSF1A, TRAIL R1/TNFRSF10A, TRAIL R2/TNFRSF10B, XIAP			

Products	Description	Catalog #	Size
Human Cell Stress Array Kit	Contains 4 arrays - each spotted in duplicate with 26 different cell stress-related antibodies	ARY018	1 Kit
ADAMTS1, Bcl-2, Carbonic Anhydrase IX, Cited-2, COX-2, Cytochrome c, Dkk-4, FABP1/L-FABP, HIF-1 α , HIF-2 α /EPAS1, Phospho-HSP27 (S78/S82), HSP60, HSP70/HSPA1A, IDO, Phospho-JNK Pan (T183/Y185), NF κ B1, p21/CIP1/CDKN1A, p27/Kip1, Phospho-p38 α (T180/Y182), Phospho-p53 (S46), PON1, PON2, PON3, Thioredoxin-1, SIRT2, SOD2/Mn-SOD			

Products	Description	Catalog #	Size
Human Chemokine Array Kit	Contains 4 membranes - each spotted in duplicate with 31 different chemokine antibodies	ARY017	1 Kit
CCL1/I-309, CCL2/MCP-1, CCL3/CCL4 (MIP-1 α /MIP-1 β), CCL5/RANTES, CCL7/MCP-3, CCL14/HCC-1/HCC-3, CCL15/MIP-1 β /LKN-1, CCL17/TARC, CCL18/PARC, CCL19/MIP-3 β , CCL20/MIP-3 α , CCL21/6CKine, CCL22/MDC, CCL26/Eotaxin-3, CCL28, Chemerin, CX3CL1/Fractalkine, CXCL1/GRO α , CXCL4/PF4, CXCL5/ENA-78, CXCL7/NAP-2, CXCL8/IL-8, CXCL9/MIG, CXCL10/IP-10, CXCL11/I-TAC, CXCL12/SDF-1, CXCL16, CXCL17/VCC-1, IL-16, Midkine, XCL1/Lymphotactin			

Products	Description	Catalog #	Size
Mouse Chemokine Array Kit	Contains 4 membranes - each spotted in duplicate with 25 different chemokine antibodies	ARY020	1 Kit
CCL2/JE/MCP-1, CCL3/CCL4 (MIP-1 α /MIP-1 β), CCL5/RANTES, CCL6/C10, CCL8/MCP-2, CCL9/10/MIP-1 γ , CCL11/Eotaxin, CCL12/MCP-5, CCL21/6CKine, CCL22/MDC, CCL27/CTACK, CCL28, Chemerin, Complement Component C5a, CX3CL1/Fractalkine, CXCL1/KC, CXCL2/MIP-2, CXCL9/MIG, CXCL10/IP-10/CRG-2, CXCL11/I-TAC, CXCL12/SDF-1, CXCL13/BLC/BCA-1, CXCL16, IL-16, LIX			

Products	Description	Catalog #	Size
Human Cytokine Array Kit, Panel A	Contains 4 arrays - each spotted in duplicate with 36 different cytokine antibodies	ARY005	1 Kit
C5a, CCL1/I-309, CCL2/MCP-1, CCL3/MIP-1 α , CCL4/MIP-1 β , CCL5/RANTES, CD40 Ligand/TNFSF5, CXCL1/GRO α , CXCL8/IL-8, CXCL10/IP-10, CXCL11/I-TAC, CXCL12/SDF-1 α , G-CSF, GM-CSF, ICAM-1/CD54, IFN- γ , IL-1 α /IL-1F1, IL-1 β /IL-1F2, IL-1 γ /IL-1F3, IL-2, IL-4, IL-5, IL-6, IL-10, IL-12 p70, IL-13, IL-16, IL-17, IL-17E/IL-25, IL-23, IL-27, IL-32 α , MIF, Serpin E1/PAI-1, TNF- α , TREM-1			

PROTEOME PROFILER™ ANTIBODY ARRAYS

Products	Description	Catalog #	Size
Human XL Cytokine Array Kit	Contains 4 membranes - each spotted in duplicate with 102 different cytokine antibodies	ARY022	1 Kit
Adiponectin/Acrp30, Aggrecan, Angiogenin, Angiopoietin-1, Angiopoietin-2, BAFF/BlyS/TNFSF13B, BDNF, C5a, CCL2/MCP-1, CCL3/CCL4 (MIP-1 α /MIP-1 β), CCL5/RANTES, CCL7/MCP-3, CCL17/TARC, CCL19/MIP-3 β , CCL20/MIP-3 α , CD14, CD30/TNFRSF8, CD40 Ligand/TNFSF5, Chitinase 3-like 1, Complement Factor D, C-Reactive Protein/CRP, Cripto-1, CXCL1/GRO α , CXCL4/PF4, CXCL5/ENA-78, CXCL8/IL-8, CXCL9/MIG, CXCL10/IP-10, CXCL11/I-TAC, CXCL12/SDF-1 α , Cystatin C, Dkk-1, DPPIV/CD26, EGF, Endoglin/CD105, EMMPRIN/CD147, Fas Ligand/TNFSF6, FGF basic, KGF/FGF-7, FGF-19, Flt-3 Ligand, G-CSF, GDF-15, GM-CSF, Growth Hormone, HGF, ICAM-1/CD54, IFN- γ , IGFBP-2, IGFBP-3, IL-1 α /IL-1F1, IL-1 β /IL-1F2, IL-1 α /IL-1F3, IL-2, IL-3, IL-4, IL-5, IL-6, IL-10, IL-11, IL-12 p70, IL-13, IL-15, IL-16, IL-17A, IL-18 BPa, IL-19, IL-22, IL-23, IL-24, IL-27, IL-31, IL-32 α / β / γ , IL-33, IL-34, Kallikrein 3/PSA, Leptin, LIF, Lipocalin-2/NGAL, M-CSF, MIF, MMP-9, Myeloperoxidase, Osteopontin (OPN), PDGF-AA, PDGF-AB/BB, Pentraxin 3/TSG-14, RAGE, RBP4, Relaxin-2, Resistin, Serpin E1/PAI-1, SHBG, ST2/IL-1 R4, TFF3, Tfr, TGF- α , Thrombospondin-1, TNF- α , uPAR, VEGF, Vitamin D BP			

Products	Description	Catalog #	Size
Mouse Cytokine Array Kit, Panel A	Contains 4 arrays - each spotted in duplicate with 40 different cytokine antibodies	ARY006	1 Kit
C5a, CCL1/TCA-3, CCL2/JE/MCP-1, CCL3/MIP-1 α , CCL4/MIP-1 β , CCL5/RANTES, CCL11/Eotaxin, CCL12/MCP-5, CCL17/TARC, CXCL1/KC, CXCL2/MIP-2, CXCL9/MIG, CXCL10/IP-10/CRG-2, CXCL11/I-TAC, CXCL12/SDF-1 α , CXCL13/BLC/BCA-1, G-CSF, GM-CSF, ICAM-1/CD54, IFN- γ , IL-1 α /IL-1F1, IL-1 β /IL-1F2, IL-1 α /IL-1F3, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-10, IL-12 p70, IL-13, IL-16, IL-17, IL-23, IL-27, IL-32 α , M-CSF, TIMP-1, TNF- α , TREM-1			

Products	Description	Catalog #	Size
Mouse XL Cytokine Array Kit	Contains 4 membranes - each spotted in duplicate with 111 different cytokine antibodies	ARY028	1 Kit
Adiponectin/Acrp30, Amphiregulin, Angiopoietin-1, Angiopoietin-2, BAFF/BlyS/TNFSF13B, C1q R1/CD93, CCL2/JE/MCP-1, CCL3/CCL4 (MIP-1 α /MIP-1 β), CCL5/RANTES, CCL6/C10, CCL11/Eotaxin, CCL12/MCP-5, CCL17/TARC, CCL19/MIP-3 β , CCL20/MIP-3 α , CCL21/6CKine, CCL22/MDC, CD14, CD40/TNFRSF5, CD160, Chemerin, Chitinase 3-like 1, Coagulation Factor III/Tissue Factor, Complement Component C5/C5a, Complement Factor D, C-Reactive Protein/CRP, CX3CL1/Fractalkine, CXCL1/KC, CXCL2/MIP-2, CXCL9/MIG, CXCL10/IP-10, CXCL11/I-TAC, CXCL13/BLC/BCA-1, CXCL16, Cystatin C, Dkk-1, DPPIV/CD26, EGF, Endoglin/CD105, Endostatin, Fetuin A/AHSG, FGF acidic, FGF-21, Flt-3 Ligand, Gas6, G-CSF, GDF-15, GM-CSF, HGF, ICAM-1/CD54, IFN- γ , IGFBP-1, IGFBP-2, IGFBP-3, IGFBP-5, IGFBP-6, IL-1 α /IL-1F1, IL-1 β /IL-1F2, IL-1 α /IL-1F3, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-10, IL-11, IL-12 p40, IL-13, IL-15, IL-17A, IL-22, IL-23, IL-27, IL-28, IL-33, LDL R, Leptin, LIF, Lipocalin-2/NGAL, LIX, M-CSF, MMP-2, MMP-3, MMP-9, Myeloperoxidase, Osteopontin (OPN), Osteoprotegerin/TNFRSF11B, PD-ECGF/Thymidine Phosphorylase, PDGF-BB, Pentraxin 2/SAP, Pentraxin 3/TSG-14, Periostin/OSF-2, Pref-1/DLK-1/FA1, Proliferin, Proprotein Convertase 9/PCSK9, RAGE, RBP4, Reg3G, Resistin, E-Selectin/CD62E, P-Selectin/CD62P, Serpin E1/PAI-1, Serpin F1/PEDF, Thrombopoietin, TIM-1/KIM-1/HAVCR, TNF- α , VCAM-1/CD106, VEGF, WISP-1/CCN4			

Products	Description	Catalog #	Size
Rat Cytokine Array Kit, Panel A	Contains 4 arrays - each spotted in duplicate with 29 different cytokine antibodies	ARY008	1 Kit
CCL3/MIP-1 α , CCL5/RANTES, CCL20/MIP-3 α , CNTF, CXCL1/IL-1, CXCL2/CINC-3, CXCL3/CINC-2 α / β , CXCL7/Thymus Chemokine-1, CXCL9/MIG, CXCL10/IP-10, GM-CSF, ICAM-1/CD54, IFN- γ , IL-1 α /IL-1F1, IL-1 β /IL-1F2, IL-1 α /IL-1F3, IL-2, IL-3, IL-4, IL-6, IL-10, IL-13, IL-17, LIX, L-Selectin/CD62L, TIMP-1, TNF- α , VEGF			

Products	Description	Catalog #	Size
Human XL Oncology Array Kit	Contains 4 membranes - each spotted in duplicate with 84 different cancer-related antibodies	ARY026	1 Kit
Amphiregulin, Angiopoietin-1, Angiopoietin-like 4, Axl, Bcl-x, CA125/MUC16, E-Cadherin, VE-Cadherin, CapG, Carbonic Anhydrase IX, Cathepsin B, Cathepsin D, Cathepsin S, CCL2/MCP-1, CCL3/MIP-1 α , CCL7/MCP-3, CCL8/MCP-2, CCL20/MIP-3 α , CD25/IL-2 R α , CD31/PECAM-1, CEACAM-5, CG α / β (HCG), CXCL8/IL-8, Decorin, Dkk-1, DLL1, EGF R/ErbB1, Endoglin/CD105, Endostatin, Enolase 2/Neuron-Specific Enolase, ENPP-2/Autotaxin, eNOS, EpCAM/TROP1, ER α /NR3A1, ErbB2/Her2, ErbB3/Her3, ErbB4/Her4, α -Fetoprotein, FGF basic, FoxC2, FoxO1/FKHR, Galectin-3, GM-CSF, HGF R/c-Met, HIF-1 α , HNF-3 β /FoxA2, HO-1/HMOX1, ICAM-1/CD54, IL-6, IL-18 BPa, Kallikrein 3/PSA, Kallikrein 5, Kallikrein 6/Neurosin, Leptin, Lumican, M-CSF, Mesothelin, MMP-2, MMP-3, MMP-9, MSP/MST1, MUC-1, Nectin-4, Osteopontin (OPN), p27/Kip1, p53, PDGF-AA, Progesterone R/NR3C3, Progranulin, Prolactin, Prostatin/Prss8, E-Selectin/CD62E, Serpin B5/Maspin, Serpin E1/PAI-1, SNAIL, SPARC, Survivin, Tenascin C, Thrombospondin-1, TIE-2, u-Plasminogen Activator/Urokinase, VCAM-1/CD106, VEGF, Vimentin			

PROTEOME PROFILER™ ANTIBODY ARRAYS

Products	Description	Catalog #	Size
Human Phospho-Immunoreceptor Array Kit	Contains 4 arrays - each spotted in duplicate with 59 different antibodies recognizing proteins involved in immunoreceptor signaling	ARY004B	1 Kit
2B4/CD244/SLAMF4, BLAME/SLAMF8, BTLA, CD3e, CD5, CD6, CD23/Fcε RII, CD28, CD31/PECAM, CD84/SLAMF5, CD229/SLAMF3, CD300A/LMIR1, CD300C/LMIR2, CD300E/LMIR6, CD300F/LMIR3, CEACAM-1/CD66a, CLEC-1, CLEC-2, CRACC/SLAMF7, CTLA-4, DCIR/CLEC4A, Dectin-1/CLEC7A, DNAM-1/CD226, Fcγ RIIIA/CD32a, Fcγ RIIIA/B/CD16a/b, FCRL1/FcRH1, FCRL2/FcRH2, FCRL4/FcRH4, FCRL5/FcRH5, ILT2/CD85j, ILT3/CD85k, ILT4/CD85d, ILT5/CD85a, ILT6/CD85e, Integrin β3/CD61, KIR2DL4/CD158d, LAIR-1, LAIR-2, MDL-1/CLEC5A, NKp30/NCR3, NKp44/NCR2, NKp46/NCR1, NKp80/KLRF1, NTB-A/SLAMF6, PD-1, SHIP-1, SHP-1, SHP-2, Siglec-2/CD22, Siglec-3/CD33, Siglec-5/CD170, Siglec-7/CD328, Siglec-9, Siglec-10, SIRP-β1/CD172b, SLAM/CD150, TREM-1, TREM-2, TREML1/TLT-1			

Products	Description	Catalog #	Size
Human Phospho-Kinase Array Kit	Contains 4 sets of 2 membranes - each spotted in duplicate with antibodies against 43 different kinase phosphorylation sites and 2 related proteins	ARY003B	1 Kit
Akt1/2/3 (S473), Akt1/2/3 (T308), AMPKα1 (T183), AMPKα2 (T172), β-Catenin, Chk2 (T68), c-Jun (S63), CREB (S133), EGF R (Y1068), eNOS (S1177), ERK1/2 (T202/Y204, T185/Y187), FAK (Y397), Fgr (Y412), Fyn (Y420), GSK-3α/β (S21/S9), Hck (Y411), HSP27 (S78/S82), HSP60, JNK1/2/3 (T183/Y185, T221/Y223), Lck (Y394), Lyn (Y397), MSK1/2 (S376/S360), p27/Kip1 (T198), p38α (T180/Y182), p53 (S15), p53 (S46), p53 (S392), p70 S6 Kinase (T421/S424), PDGF Rβ (Y751), PLC-γ1 (Y783), PRA540 (T246), PYK2/FAK2 (Y402), RSK1/2/3 (S380), Src (Y419), STAT2 (Y689), STAT3 (Y705), STAT3 (S727), STAT5a (Y699), STAT5a/b (Y699), STAT5b (Y699), STAT6 (Y641), TOR (S2448), WNK-1 (T60), Yes (Y426)			

Products	Description	Catalog #	Size
Human Phospho-MAPK Array Kit	Contains 4 arrays - each spotted in duplicate with 26 different antibodies recognizing mitogen activated protein kinases (MAPKs) and other kinases	ARY002B	1 Kit
Akt1 (S473), Akt2 (S474), Akt3 (S472), Akt (S473, S474, S472) Pan Specific, CREB (S133), ERK1 (T202/Y204), ERK2 (T185/Y187), GSK-3α/β (S21/S9), GSK-3β (S9), HSP27 (S78/S82), JNK1 (T183/Y185), JNK2 (T183/Y185), JNK3 (T221/Y223), JNK (T183/Y185)/(T221/Y223) Pan Specific, MKK3 (S218/T222), MKK6 (S207/T211), MSK2/RSKB (S360), p38α (T180/Y182), p38β (T180/Y182), p38δ (T180/Y182), p38γ (T183/Y185), p53 (S46), p70 S6 Kinase (T421/S424), RSK1 (S380), RSK2 (S386), TOR (S2448)			

Products	Description	Catalog #	Size
Human Phospho-RTK Array Kit	Contains 4 arrays - each spotted in duplicate with 49 different receptor tyrosine kinase (RTK) antibodies	ARY001B	1 Kit
ALK/CD246, Axl, CD117/c-kit, DDR1, DDR2, Dtk, EGF R, EphA1, EphA2, EphA3, EphA4, EphA5, EphA6, EphA7, EphA10, EphB1, EphB2, EphB3, EphB4, EphB6, ErbB2/Her2, ErbB3/Her3, ErbB4/Her4, FGF R1, FGF R2α, FGF R3, FGF R4, Flt-3/Fik-2, HGF R/c-MET, IGF-I R, Insulin R/CD220, M-CSF R, Mer, MSP R/Ron, MuSK, PDGF Rα, PDGF Rβ, Ret, ROR1, ROR2, Ryk, Tie-1, Tie-2, TrkA, TrkB, TrkC, VEGF R1/Flt-1, VEGF R2/KDR, VEGF R3/Flt-4			

Products	Description	Catalog #	Size
Mouse Phospho-RTK Array Kit	Contains 4 arrays - each spotted in duplicate with 39 different receptor tyrosine kinase (RTK) antibodies	ARY014	1 Kit
Axl, CD117/c-kit, Dtk, EGF R, EphA1, EphA2, EphA3, EphA6, EphA7, EphA8, EphB1, EphB2, EphB4, EphB6, ErbB2/Her2, ErbB3/Her3, ErbB4/Her4, FGF R2 (Illic), FGF R3, FGF R4, Flt-3/Fik-2, HGF R/c-MET, IGF-I R, Insulin R/CD220, M-CSF R, Mer, MSP R, MuSK, PDGF Rα, PDGF Rβ, Ret, Tie-1, Tie-2, TrkA, TrkB, TrkC, VEGF R1/Flt-1, VEGF R2/Fik-1, VEGF R3/Flt-4			

Products	Description	Catalog #	Size
Human Pluripotent Stem Cell Array Kit	Contains 8 arrays - each spotted in duplicate with 15 different stem cell marker antibodies	ARY010	1 Kit
E-Cadherin, α-Fetoprotein, GATA-4, Goosecoid, CGα/β (HCG), HNF-3β/FoxA2, Nanog, Oct-3/4, Otx2, PDX-1/IPF1, Snail, SOX2, SOX17, p63/TP73L, VEGF R2/KDR			

Products	Description	Catalog #	Size
Human Protease Antibody Array Kit	Contains 4 membranes - each spotted in duplicate with 35 different protease antibodies	ARY021B	1 Kit
ADAM8, ADAM9, ADAMTS1, ADAMTS13, Cathepsin A, Cathepsin B, Cathepsin C/D/PPi, Cathepsin D, Cathepsin E, Cathepsin L, Cathepsin S, Cathepsin V, Cathepsin X/Z/P, DPPIV/CD26, Kallikrein 3/PSA, Kallikrein 5, Kallikrein 6, Kallikrein 7, Kallikrein 10, Kallikrein 11, Kallikrein 13, MMP-1, MMP-2, MMP-3, MMP-7, MMP-8, MMP-9, MMP-10, MMP-12, MMP-13, Neprilysin/CD10, Presenilin-1, Proprotein Convertase 9/PCSK9, Proteinase 3/PRTN3, u-Plasminogen Activator/Urokinase			

PROTEOME PROFILER™ ANTIBODY ARRAYS

Products	Description	Catalog #	Size
Human Protease Inhibitor Kit	Contains 4 membranes - each spotted in duplicate with 32 different protease inhibitor antibodies	ARY023	1 Kit
APP, Cystatin A, Cystatin B, Cystatin C, Cystatin E/M, EMMPRIN/CD147, Fetuin B, HAI-1, HAI-2, HE4/WRDC2, Latexin, Lipocalin-1, Lipocalin-2/NGAL, RECK, Serpin A5, Serpin A8/AGT, Serpin A9/Centerin, Serpin A12, Serpin B5/Maspin, Serpin B6, Serpin B8, Serpin E1/PAI-1, Serpin F1/PEDF, Testican 1/SPOCK1, Testican 2/SPOCK2, TFPI, TFPI-2, TIMP-1, TIMP-2, TIMP-3, TIMP-4, Trappin-2/Elafin			

Products	Description	Catalog #	Size
Human Protease/Protease Inhibitor Array Kit	Contains 4 membranes - 2 spotted in duplicate with antibodies against 35 different proteases and 2 spotted in duplicate with antibodies against 32 different protease inhibitors	ARY025	1 Kit
Protease Inhibitors: APP, Cystatin A, Cystatin B, Cystatin C, Cystatin E/M, EMMPRIN/CD147, Fetuin B, HAI-1, HAI-2, HE4/WRDC2, Latexin, Lipocalin-1, Lipocalin-2/NGAL, RECK, Serpin A5, Serpin A8/AGT, Serpin A9/Centerin, Serpin A12, Serpin B5/Maspin, Serpin B6, Serpin B8, Serpin E1/PAI-1, Serpin F1/PEDF, Testican 1/SPOCK1, Testican 2/SPOCK2, TFPI, TFPI-2, TIMP-1, TIMP-2, TIMP-3, TIMP-4, Trappin-2/Elafin Proteases: ADAM8, ADAM9, ADAMTS1, ADAMTS13, Cathepsin A, Cathepsin B, Cathepsin C/DPPI, Cathepsin D, Cathepsin E, Cathepsin L, Cathepsin S, Cathepsin V, Cathepsin X/Z/P, DPPIV/CD26, Kallikrein 3/PSA, Kallikrein 5, Kallikrein 6/Neurosin, Kallikrein 7, Kallikrein 10, Kallikrein 11, Kallikrein 13, MMP-1, MMP-2, MMP-3, MMP-7, MMP-8, MMP-9, MMP-10, MMP-12, MMP-13, Neprilysin/CD10, Presenilin-1, Proprotein Convertase 9/PCSK9, Proteinase 3/PRTN3, u-Plasminogen Activator/Urokinase			

Products	Description	Catalog #	Size
Human Soluble Receptor Antibody Array Kit, Hematopoietic Panel	Contains 4 membranes - 2 spotted in duplicate with 48 different hematopoietic antibodies and 2 spotted in duplicate with 57 common antibodies	ARY011	1 Kit
Hematopoietic Panel: CD5, CD6, CD30/TNFRSF8, CD40/TNFRSF5, CD43, CD48/SLAMF2, CD59, CD84/SLAMF5, CD97, CD163, CD229/SLAMF3, Chitinase 3-like 1, C-Reactive Protein/CRP, CRTAM, CXCL16, DNAM-1, DPPIV/CD26, IFN-γ R2, IL-2 Rα, IL-2 Rβ, IL-6 R, Integrin α3/CD49c, Integrin α4/CD49d, Integrin α5/CD49e, Integrin α6/CD49f, Integrin α9, Integrin αE/CD103, Integrin αL/CD11a, Integrin αM/CD11b, Integrin αX/CD11c, LAG-3, MMP-9, MMR/CD206, Myeloperoxidase, Resistin, L-Selectin/CD62L, Siglec-5, Siglec-6/CD327, Siglec-7/CD328, Siglec-9, Siglec-10, TIM-3, TLR2, TLR4, TNF RI/TNFRSF1A, TRACP/PAP/ACP5, TRANCE/RANKL/TNFSF11, TREM-1 Common Analytes Panel: ACE, ADAM8, ADAM9, ADAM10, ALCAM, Amphiregulin, APP Pan Specific, BACE-1, BCAM, C1q R1/CD93, CD9, CD23/Fcε RII, CD31/PECAM-1, CD36/SR-B3, CD40 Ligand/TNFSF5, CD44H, CD58/LFA-3, CD90/Thy1, CD99, CD155/PVR, CEACAM-1, CX3CL1/Fractalkine, CXCL8/IL-8, EMMPRIN, Endoglin/CD105, Epregeulin, Galectin-1, Galectin-3, Galectin-3BP/MAC-2BP, HB-EGF, ICAM-2/CD102, IL-1 RII, IL-15 Rα, Integrin β1/CD29, Integrin β2/CD18, Integrin β3/CD61, Integrin β4/CD104, Integrin β5, Integrin β6, JAM-A, Lipocalin-2/NGAL, LOX-1/OLR1, MD-1, MMP-2, NCAM-1/CD56, NCAM-L1, Osteopontin (OPN), PAR1, Pref-1/DLK-1/FA1, RECK, Stabilin-1, TACE/ADAM17, Thrombospondin-1, TIMP-1, TIMP-2, TIMP-3, TNF RII/TNFRSF1B			

Products	Description	Catalog #	Size
Human Soluble Receptor Antibody Array Kit, Non-Hematopoietic Panel	Contains 4 membranes - 2 spotted in duplicate with 62 different non-hematopoietic antibodies and 2 spotted in duplicate with 57 common antibodies	ARY012	1 Kit
Non-Hematopoietic Panel: ADAM15, βIG-H3, BMPR-IB/ALK-6, Cadherin-4/R-Cadherin, Cadherin-11, Cadherin-13, E-Cadherin, N-Cadherin, P-Cadherin, VE-Cadherin, Cathepsin D, CD40/TNFRSF5, CEACAM-5, CHL-1/LICAM-2, Clusterin, Coagulation Factor II/Thrombin, COMP, CRELD2, Desmoglein-2, ECM-1, EGF R/ErbB1, Endoglycan, EpCAM/TROP1, ErbB2/Her2, ErbB3/Her3, ErbB4/Her4, ESAM, Galectin-2, HPRG, Integrin α3/CD49c, Integrin α5/CD49e, Integrin α6/CD49f, Integrin α9, Integrin αV/CD51, Jagged 1, JAM-B/VE-JAM, JAM-C, LRP-6, MCAM/CD146, MEPE/OF45, MUCDHL, Nectin-2/CD112, Nectin-4, Neurotrimin, Notch-1, NrCAM, Periostin/OSF-2, Podocalyxin, E-Selectin/CD62E, Semaphorin 3A, SREC-I/SCARF1, SREC-II/SCARF2, Stanniocalcin 1, Syndecan-1, Syndecan-4, Thrombospondin-2, TIMP-4, TROP-2, VAP-1, VCAM-1/CD106, VEGF R1/Fit-1, VEGF R2/KDR Common Analytes Panel: ACE, ADAM8, ADAM9, ADAM10, ALCAM, Amphiregulin, APP Pan Specific, BACE-1, BCAM, C1q R1/CD93, CD9, CD23/Fcε RII, CD31/PECAM-1, CD36/SR-B3, CD40 Ligand/TNFSF5, CD44H, CD58/LFA-3, CD90/Thy1, CD99, CD155/PVR, CEACAM-1, CX3CL1/Fractalkine, CXCL8/IL-8, EMMPRIN, Endoglin/CD105, Epregeulin, Galectin-1, Galectin-3, Galectin-3BP/MAC-2BP, HB-EGF, ICAM-2/CD102, IL-1 RII, IL-15 Rα, Integrin β1/CD29, Integrin β2/CD18, Integrin β3/CD61, Integrin β4/CD104, Integrin β5, Integrin β6, JAM-A, Lipocalin-2/NGAL, LOX-1/OLR1, MD-1, MMP-2, NCAM-1/CD56, NCAM-L1, Osteopontin (OPN), PAR1, Pref-1/DLK-1/FA1, RECK, Stabilin-1, TACE/ADAM17, Thrombospondin-1, TIMP-1, TIMP-2, TIMP-3, TNF RII/TNFRSF1B			

Products	Description	Catalog #	Size
Human Ubiquitin Array Kit	Contains 4 membranes - each spotted in duplicate with antibodies against 49 different ubiquitinated proteins	ARY027	1 Kit
A20/TNFAIP3, ATF4, Bcl-2, β-TrCP1, Caspase-8, CBL, Cyclin D1, CD44, cIAP-1/HAIP-2, cIAP-2/HAIP-1, COX-2, EGF R/ErbB1, ER-α, ErbB2/Her2, ErbB3/Her3, ErbB4/Her4, Fatty Acid Synthase, F-box protein 15, FBXW7/Cdc4, FGF R2α/FGF R2β, HGF R/c-MET, HIF-1α, HSP70/HSPA1A, HSP90, IGF-I R, IκB-α, IκB-ε, IKKγ, Insulin R/CD220, IRAK1, IRF3, IRS1, M-CSF R, MSP R/Ron, Nrf2, NIK/MAP3K14, p21/CIP1/CDKN1A, p53, PDGF Rα, PDGF Rβ, RIPK1/RIP1, SCF R/CD117/c-kit, Tfr, TNF RI/TNFRSF1A, TRAF-2, TRAF-3, TRAF-6, TrkA, VEGF R3/Fit-4			

LUMINEX® SCREENING ASSAYS

Human Luminex® Screening Assay - Analytes

Adiponectin/Acrp30	CD163	FGF basic	IL-17F
Aggrecan *	Chemerin *	FGF-21	IL-18
Amphiregulin *	Chitinase 3-like 1/YKL-40	FLRG	IL-18 BPa *
Angiogenin *	Coagulation Factor D/Adipsin	Flt-3 Ligand	IL-19
Angiopoietin-1 *	Coagulation Factor XIV/Protein C	Follistatin	IL-22
Angiopoietin-2	Collagen IV α 1	Galectin-1 *	IL-23
Angiopoietin-like 3	Complement Component C5a *	Galectin-3	IL-27
Angiopoietin-like 4	C-Reactive Protein/CRP	Galectin-3BP/MAC-2BP *	IL-28A/IFN- λ 2
APP *	Cripto-1 *	Galectin-9 *	IL-31
B7-H1 *	CX3CL1/Fractalkine	G-CSF	IL-33
BCMA/TNFRSF17 *	CXCL1/GRO α	GDF-15	IL-34
BDNF	CXCL4/PF4	GDNF	IL-36 β /IL-1F8 *
BMP-2 *	CXCL5/ENA-78	Glucagon	Insulin
BMP-4 *	CXCL6/GCP-2	GM-CSF	Insulin C-Peptide
BMP-9	CXCL7/NAP-2	gp130	ITIH4 *
CA125/MUC16	CXCL8/IL-8	Granzyme B	Kallikrein 3/PSA
CA15-3	CXCL9/MIG	Growth Hormone	Kallikrein 5 *
Calbindin D	CXCL10/IP-10	HB-EGF	Leptin
Cardiac Myoglobin	CXCL11/I-TAC	HGF	LIF
Cardiac Troponin I/cTNI	CXCL12/SDF-1 α	ICAM-1/CD54	Lipocalin-2/NGAL
CCL2/MCP-1	CXCL13/BLC/BCA-1	IFN- γ	L-Selectin/CD62L
CCL3/MIP-1a	CXCL14/BRAK *	IFN- γ R1 *	Lumican *
CCL4/MIP-1b	CXCL16	IGFBP-1	M-CSF
CCL5/RANTES	Cystatin C	IGFBP-3	MFG-E8 *
CCL7/MCP-3	DcR3 *	IGFBP-4 *	MICA *
CCL8/MCP-2	Dkk-1	IGFBP-rp1/IGFBP-7	MICB *
CCL11/Eotaxin	DPPIV/CD26 *	IL-1 α /IL-1F1	β 2-Microglobulin
CCL13/MCP-4	DR3/TNFRSF25 *	IL-1 β /IL-1F2	Midkine *
CCL14/HCC-1/HCC-3	EGF	IL-1 ra/IL-1F3	MIF
CCL17/TARC	EMMPRIN/CD147 *	IL-1 RI	MMP-1
CCL18/PARC	Endoglin/CD105	IL-1 RII	MMP-2
CCL19/MIP-3 β	Endostatin *	IL-2	MMP-3
CCL20/MIP-3 α	Endothelin-1	IL-2 R α /CD25	MMP-7
CCL21/6CKine	Enolase 2/Neuron-Specific Enolase	IL-3	MMP-8
CCL22/MDC	ENPP-2/Autotaxin *	IL-4	MMP-9
CCL24/Eotaxin-2/MPIF-2	EphA2 *	IL-5	MMP-12
CCL26/Eotaxin-3	ErbB2/Her2	IL-6	MMP-13
CCL27/CTACK	Erythropoietin *	IL-6 R α	Myeloperoxidase
CCL28 *	ESAM *	IL-7	MSP/MST1 *
CD14 *	E-Selectin/CD62E	IL-9	NCAM-1
CD23/Fc ϵ RII *	FABP1/L-FABP	IL-10	Nephrin *
CD27 *	FABP3/H-FABP	IL-12 p70	NRG1- β 1/HRG1- β 1 *
CD30	FABP4/A-FABP	IL-13	NT-4 *
CD31/PECAM-1	Fas/TNFRSF6	IL-15	NT-Pro-ANP
CD40/TNFRSF5	Fas Ligand/TNFSF6	IL-17A	Oncostatin M (OSM)
CD40 Ligand/TNFSF5	α -Fetoprotein	IL-17C *	Osteopontin (OPN)
CD44 *	FGF acidic	IL-17E/IL-25	PBEF/Visfatin

* Analyte available exclusively from R&D Systems, a Bio-Techne brand

□ New Analyte!

LUMINEX® SCREENING ASSAYS

Human Luminex® Screening Assay - Analytes

PDGF-AA	Resistin	TFPI *	ULBP-1 *
PDGF-BB	ROBO4 *	TfR *	ULBP-2/5/6 *
PDGF-CC *	S100A8 *	TGF-α	ULBP-3 *
PDGF-DD *	S100B	Thrombospondin-2 *	ULBP-4/RAET1E *
Pentraxin 3/TSG-14	SCF	Tie-1 *	uPA/Urokinase
Periostin/OSF-2	Serpin A7/TBG *	Tie-2	uPAR *
PIGF	Serpin C1/Antithrombin-III	TIM-1/KIM-1/HAVCR	Uteroglobin *
Procalcitonin	Serpin E1/PAI-1	TIMP-1	VAP-1 *
Progranulin *	SHBG	TNF-α	VCAM-1/CD106
Prolactin	SOST	TNF RI/TNFRSF1A	VEGF-A
Proprotein Convertase 9/PCSK9	SPARC	TNF RII/TNFRSF1B	VEGF-C
Proteinase 3/PRTN3	SP-D *	Thrombopoietin	VEGF-D
P-Selectin/CD62P	ST2/IL-1 R4 *	TRAIL/TNSF10	VEGF R3/Flt-4
RAGE	Synuclein-α	TRAIL R2/TNFRSF10B	Vitamin D Binding Protein
RBP4	TACI *	TRAIL R3/TNFRSF10C *	vWF-A2 *
Relaxin-2	Tenascin C *	TRANCE/RANK L/TNFSF11	
Renin	TFF3	TREM-1 *	

Mouse Luminex® Screening Assay - Analytes

Adiponectin/Acrp30	Dkk-1	IL-6	Periostin/OSF-2 *
BAFF/BLyS/TNFSF13B	Endoglin	IL-6 Rα	PIGF-2
C1q R1/CD93 *	EGF R *	IL-7	Proprotein Convertase 9/PCSK9 *
CCL2/JE/MCP-1	EMMPRIN/CD147 *	IL-9	P-Selectin
CCL3/MIP-1α	Erythropoietin *	IL-10	RAGE
CCL4/MIP-1β	FGF-basic	IL-12 p70	Renin
CCL5/RANTES	FGF-21 *	IL-13	Resistin
CCL7/MARC	G-CSF	IL-17A	S100A8 *
CCL8/MCP-2 *	GDF-15 *	IL-23 p19	S100A9 *
CCL11/Eotaxin	Glucagon	IL-33	SOST
CCL12/MCP-5	GM-CSF	LDL R *	Syndecan-1 *
CCL20/MIP-3α	HGF	Leptin	Thrombospondin-4 *
CCL22/MDC	ICAM-1	Lipocalin-2/NGAL	TIM-1/KIM-1/HAVCR
C-Reactive Protein/CRP	IFN-γ	LIX	TNF-α
CXCL1/KC	IGF-I *	M-CSF	TRANCE/RANK L *
CXCL2/MIP-2	IL-1α/IL-1F1	MMP-9	TWEAK *
CXCL9/MIG	IL-1β/IL-1F2	β-NGF *	VEGF
CXCL10/IP-10/CRG-2	IL-2	Osteopontin (OPN) *	VEGF R2/Flk-1
CXCL12/SDF-1α	IL-4	Pancreatic Polypeptide/PP	
Cystatin C	IL-5	PDGF-BB *	

Rat Luminex® Screening Assay - Analytes

CXCL2/CINC-3	IL-1α/IL-1F1	IL-10	TNF-α
CXCL3/CINC-2α/β	IL-1β/IL-1F2	IL-13	VEGF
GM-CSF	IL-2	IL-18	
ICAM-1/CD54	IL-4	L-Selectin/CD62L	
IFN-γ	IL-6	TIMP-1	

* Analyte available exclusively from R&D Systems, a Bio-Techne brand

□ New Analyte!

MULTIANALYTE

LUMINEX® PERFORMANCE ASSAYS

Human Adhesion Molecule 4-plex*, **

ICAM-1/CD54
E-Selectin/CD62E
P-Selectin/CD62P
VCAM-1/CD106

Human Angiogenesis Panel

Angiogenin
Angiopoietin-1
Endostatin
FGF acidic
FGF basic
PDGF-AA
PDGF-BB
PIGF
Thrombospondin-2
VEGF
VEGF-D

Human Biomarker Panel A*

BAFF/BlyS/TNFSF13B
CCL20/MIP-3 α
CD14
CD27/TNFRSF7
CXCL13/BLC/BCA-1
gp130
IL-2 R α /CD25
IL-6 R α
TNF RII/TNFRSF1B

Human Cardiac Panel A*

CD40 Ligand/TNFSF5
GDF-15
Pappalysin-1/PAPP-A
Proprotein Convertase 9/PCSK9
ST2/IL-1 R4
TNF RII/TNFRSF1B

Human Cardiac Panel B*

C-Reactive Protein/CRP
Cystatin C
Myeloperoxidase
P-Selectin/CD62P
Serpine E1/PAI-1
TIMP-1

Human Cytokine Panel A

CCL2/MCP-1
CCL3/MIP-1 α
CCL4/MIP-1 β
CCL5/RANTES
CXCL5/ENA-78
CXCL8/IL-8
FGF basic

G-CSF
GM-CSF
IFN- γ

IL-1 α /IL-1F1
IL-1 β /IL-1F2
IL-1ra/IL-1F3

IL-2
IL-4

IL-5
IL-6

IL-10
IL-17

TNF- α

Thrombopoietin
VEGF

Human Cytokine Panel B*

CCL11/Eotaxin
CD40 Ligand/TNFSF5
CXCL10/IP-10
CXCL11/I-TAC

EGF

HGF

IL-12 p70

IL-13

Leptin

Human High Sensitivity Cytokine Panel A

CXCL8/IL-8
GM-CSF
IFN- γ
IL-1 β /IL-1F2
IL-2
IL-4
IL-5
IL-6
IL-10
IL-12 p70
TNF- α
VEGF

Human High Sensitivity Cytokine Panel B***

GM-CSF
IFN- γ
IL-1 β /IL-1F2
IL-2
IL-5
IL-6
IL-7
IL-13
IL-15
IL-17A
IL-17F
IL-22
IL-23
IL-31
IL-33
IL-36 β /IL-1F8
TNF- α

Human Kidney Biomarker Panel***

Clusterin
Cystatin C
CXCL10/IP-10
Fetuin A/AHSG
Lipocalin-2/NGAL
Osteopontin (OPN)
RBP4
TFF3
TIM-1/KIM-1/HAVCR

*Analytes in this panel are only available in the polystyrene bead format. **Kit is only available in the premixed format.

***Analytes in this panel are only available in the magnetic bead format.

LUMINEX® PERFORMANCE ASSAYS

Human MMP Panel	Human Obesity Panel*	Human TIMP 4-plex**
EMMPRIN/CD147	Adiponectin/Acrp30	TIMP-1
MMP-1	C-Reactive Protein/CRP	TIMP-2
MMP-2	CCL2/MCP-1	TIMP-3
MMP-3	Complement Factor D/Adipsin	TIMP-4
MMP-7	IL-6	
MMP-8	IL-10	
MMP-9	Leptin	
MMP-10	Resistin	
MMP-12	Serpin E1/PAI-1	
MMP-13	TNF- α	
		Multi-Species TGF- β 3 Panel
		TGF- β 1
		TGF- β 2
		TGF- β 3

*Analytes in this panel are only available in the polystyrene bead format. **Kit is only available in the premixed format.

***Analytes in this panel are only available in the magnetic bead format.

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MULTIANALYTE

SMALL MOLECULES AND PEPTIDES

The range of Tocris small molecules and peptides represents a unique collection of over 3,500 novel and exclusive research tools.

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Research Tools

- Caged Compounds
- Fluorescent Probes
- Peptides
- Photoswitchable Ligands
- Screening Libraries
- Small Molecules
- Toxins

Pharmacological Targets

- 5-HT
- Acetylcholine
- Cannabinoids
- Dopamine
- GABA
- Glutamate
- Opioids
- Voltage-Gated Ion Channels

Neurological Disorders

- Alzheimer's Disease
- Depression
- Epilepsy
- Huntington's Disease
- Parkinson's Disease
- Schizophrenia
- Stroke

Bulk and Custom Ordering

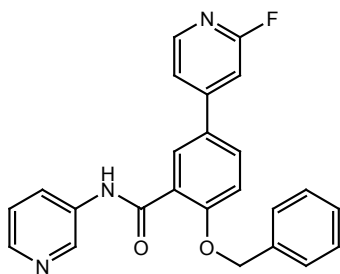
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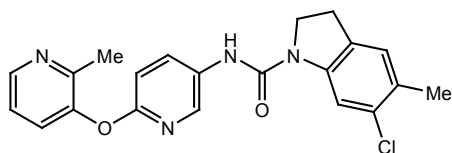
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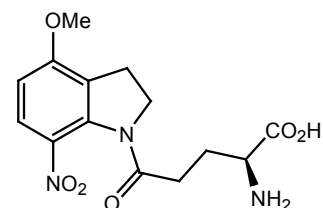
Tocris Offers a Novel and Diverse Selection of Tool Compounds



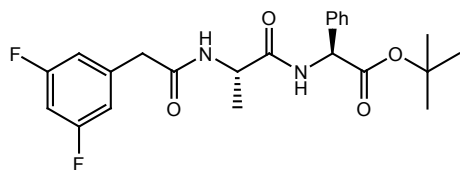
Potent and Selective LRRK2 Inhibitor. GSK2578215A (Tocris, Catalog # 4629) is a potent Leucine-Rich Repeat Ser/Thr Protein Kinase 2 (LRRK2) inhibitor (IC_{50} values are 8.9 and 10.1 nM for LRRK2[G2019S] mutant and wild-type LRRK2 respectively). It displays selectivity for LRRK2 against a panel of 460 other kinases. This compound blocks Ser910 and Ser935 phosphorylation *in vitro* and in peripheral tissues *in vivo*. It is brain penetrant. Sold for research purposes under agreement from GlaxoSmithKline.



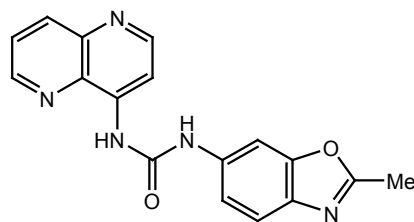
Selective 5-HT_{2C} Antagonist. SB 242084 (Tocris, Catalog # 2901) is a selective 5-HT_{2C} antagonist that exhibits >100-fold selectivity for 5-HT_{2C} over other 5-HT receptors. The compound exerts anxiolytic-like activity and is brain penetrant.



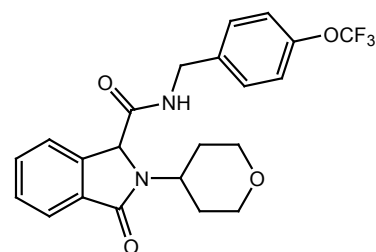
Stable Photoreleaser of L-Glutamate. MNI-caged-L-glutamate (Catalog # 1490) rapidly and efficiently releases glutamate (Catalog # 0218) when photolyzed (300-380 nm excitation). The compound is water-soluble, highly resistant to hydrolysis, stable at a neutral pH, and pharmacologically inactive at neuronal glutamate receptors (up to mM concentrations). It is also 2.5-fold more efficient at releasing L-glutamate than NI-caged L-glutamate. All cited reagents are from Tocris.



Potent γ -Secretase Inhibitor. DAPT (Tocris, Catalog # 2634) is a γ -Secretase inhibitor that reduces A β 40 and A β 42 levels in primary human neurons *in vitro*, as well as in brain extract, cerebral spinal fluid, and plasma *in vivo*. DAPT also inhibits Notch signaling and induces neuronal differentiation in embryonic stem cell-derived embryoid bodies.



Selective OX₁ Receptor Antagonist. SB 334867 (Tocris, Catalog # 1960) is a selective non-peptide Orexin OX₁ Receptor antagonist shown to inhibit intracellular Ca²⁺ release from Chinese hamster ovary (CHO) cells that express OX₁ Receptors (pK_b = 7.2). Systemic administration of SB 334867 blocks Orexin A-induced grooming and feeding behavior. Sold for research purposes under agreement from GlaxoSmithKline.



Selective Na_{1.7} Channel Blocker. NAV 26 (Tocris, Catalog # 4691) is a selective Na_{1.7} channel blocker (IC_{50} = 370 nM) that exhibits >85-fold selectivity for Na_{1.7} over Na_{1.5} and hERG channels. The compound reduces nociceptive behavior in rat models of pain.

SELECT SMALL MOLECULES AND PEPTIDES

Category	Catalog #	Product Name	Primary Action
5-HT			
5-HT ₁ Receptors	5136	Rizatriptan benzoate	Potent 5-HT _{1B/1D} agonist
5-HT ₁ Receptors	4380	WAY 100635	Potent 5-HT _{1A} silent antagonist; also D ₄ agonist
5-HT ₂ Receptors	5171	NBOH-2C-CN	Potent and selective 5-HT _{2A} agonist
5-HT ₂ Receptors	4173	MDL 100907	Potent and selective 5-HT _{2A} antagonist
5-HT ₂ Receptors	2901	SB 242084	Selective 5-HT _{2C} antagonist; brain penetrant
5-HT ₃ Receptors	2459	Tropisetron	Potent 5-HT ₃ antagonist; also partial agonist of $\alpha 7$ nAChR
5-HT ₄ Receptors	1658	GR 125487	Potent and selective 5-HT ₄ antagonist; active <i>in vivo</i>
5-HT ₆ Receptors	4964	R 1485	Selective and high-affinity 5-HT ₆ antagonist
5-HT ₇ Receptors	5005	DR 4485	Selective and high-affinity 5-HT ₇ antagonist; orally bioavailable
5-HT ₇ Receptors	1612	SB 269970	Potent and selective 5-HT ₇ antagonist; brain penetrant
Transporters	0927	Fluoxetine	5-HT re-uptake inhibitor
Transporters	1588	Indatraline	Potent 5-HT uptake inhibitor; also inhibits dopamine and noradrenaline uptake

Acetylcholine			
Cholinesterases	4385	Donepezil	Potent AChE inhibitor
Cholinesterases	3727	VU 0255035	Highly selective muscarinic M ₁ antagonist
Muscarinic Receptors	4295	VU 0357017	Positive allosteric modulator of M ₁ Receptors
Muscarinic Receptors	3383	VU 152100	Positive allosteric modulator of M ₄ Receptors
Muscarinic Receptors	3569	Xanomeline	Functionally selective M ₁ agonist
Nicotinic Receptors	5017	A 85380	High affinity and selective $\alpha 4\beta 2$ agonist
Nicotinic Receptors	2133	α -Bungarotoxin	$\alpha 7$ subtype-selective nAChR antagonist
Nicotinic Receptors	2349	Dihydro- β -erythroidine	Antagonist for neuronal $\alpha 4$ -containing Nicotinic Receptors
Nicotinic Receptors	1029	Methyllycaconitine	$\alpha 7$ neuronal Nicotinic Receptor antagonist
Nicotinic Receptors	3754	Varenicline	Orally active and subtype-selective $\alpha 4\beta 2$ partial agonist

Adenosine			
A ₁ Receptors	0439	DPCPX	A ₁ selective antagonist
A _{2A} Receptors	1063	CGS 21680	A _{2A} agonist
A _{2A} Receptors	5147	Istradefylline	Potent and selective adenosine A _{2A} antagonist
A _{2A} Receptors	4783	Lu AA 47070	Prodrug of a potent and selective adenosine A _{2A} antagonist
A ₃ Receptors	1104	2-Cl-IB-MECA	Highly selective A ₃ agonist

Caged Compounds			
5-HT	3856	RuBi-5-HT	Rubi-caged serotonin
AMPA	3840	NPEC-caged-(S)-AMPA	Caged (S)-AMPA
Dopamine	3992	NPEC-caged-dopamine	Caged dopamine
Dopamine	4932	RuBi-Dopa	Caged dopamine; exhibits two-photon sensitivity
GABA	2991	DPNI-caged-GABA	Nitroindoline-caged GABA
GABA	3400	RuBi-GABA	Caged GABA; excitable by visible wavelength
Glutamate	1490	MNI-caged-L-glutamate	Stable photoreleaser of L-glutamate
Nicotine	3855	RuBi-Nicotine	Caged nicotine; rapidly excitable by visible light

Cannabinoids			
CB ₁ Receptors	1117	AM 251	Potent CB ₁ antagonist; also GPR55 agonist
CB ₁ Receptors	5321	PSNCBAM-1	CB ₁ negative allosteric modulator
CB ₁ Receptors	4605	($\pm$)-SLV 319	Potent and selective CB ₁ antagonist
CB ₂ Receptors	1120	AM 630	CB ₂ selective antagonist/inverse agonist
CB ₂ Receptors	4756	COR 170	Selective CB ₂ inverse agonist
GPR55	1298	2-Arachidonylglycerol	Endogenous cannabinoid ligand; potent GPR55 agonist

SELECT SMALL MOLECULES AND PEPTIDES

Category	Catalog #	Product Name	Primary Action
Dopamine			
D ₁ and D ₅ Receptors	0925	SCH 23390	Standard selective D ₁ -like antagonist; also 5-HT _{2C} agonist
D ₁ and D ₅ Receptors	1447	SKF 81297	D ₁ agonist
D ₂ Receptors	1003	L-741,626	High-affinity D ₂ antagonist
D ₂ Receptors	2773	Sumanriole	D ₂ -selective agonist
D ₃ Receptors	4207	SB 277011A	Selective D ₃ antagonist
D ₄ Receptors	4552	A 412997	Selective D ₄ agonist
Non-Selective	0444	Clozapine	Dopamine antagonist with some D ₄ selectivity; also 5-HT _{2A/2C} antagonist
Non-Selective	1061	(-)-Quinpirole	D ₂ -like agonist
Transporters	0421	GBR 12909	Selective dopamine uptake inhibitor; also σ ligand
Fluorescent Probes			
Fluorescent Probes	3878	FFN 511	Fluorescent substrate for VMAT2
Fluorescent Probes	4920	Methoxy-X04	Fluorescent amyloid β detector; brain penetrant
Fluorescent Probes	2540	Tocrifluor T1117	Novel fluorescent cannabinoid ligand; fluorescent form of AM 251 (Tocris, Catalog # 1117)
GABA			
GABA _A Receptors	5281	AC 5216	Selective TSPO ligand
GABA _A Receptors	1262	SR 95531	Selective and competitive GABA _A antagonist
GABA _A Receptors	4414	TP 003	Functionally selective GABA _A ($\alpha 3$ subtype) partial agonist
GABA _B Receptors	1248	CGP 55845	Potent and selective GABA _B antagonist
GABA _C Receptors	1040	TPMPA	Selective GABA _C antagonist
Transporters	1561	(S)-SNAP 5114	GABA uptake inhibitor
Glutamate			
AMPA Receptors	1045	CNQX disodium salt	Potent AMPA/kainate receptor antagonist; more water soluble form of CNQX (Tocris, Catalog # 0190)
AMPA Receptors	1044	NBQX disodium salt	Potent AMPA receptor antagonist; more water soluble form of NBQX (Tocris, Catalog # 0373)
Kainate Receptors	0222	Kainic acid	Potent excitant and neurotoxin
Kainate Receptors	2079	UBP 302	Selective and potent GLU _{K5} -subunit containing Kainate Receptor antagonist; active enantiomer of UBP 296 (Tocris, Catalog # 2078)
Metabotropic Receptors	0103	L-AP4	Selective group III mGlu agonist
Metabotropic Receptors	4832	AZ 12216052	Positive allosteric modulator at mGlu ₈
Metabotropic Receptors	0805	(S)-3,5-DHPG	Selective group I mGlu agonist; active enantiomer of (RS)-3,5-DHPG (Tocris, Catalog # 0342)
Metabotropic Receptors	4969	LY 2389575	Selective negative allosteric modulator of mGlu ₃
Metabotropic Receptors	1209	LY 341495	Highly potent and selective group II mGlu antagonist
Metabotropic Receptors	1212	MPEP	mGlu ₅ antagonist and positive allosteric modulator at mGlu ₄
Metabotropic Receptors	2921	MTEP	Potent and selective mGlu ₅ antagonist
Metabotropic Receptors	5248	XAP 044	Potent and selective mGlu ₇ antagonist
NMDA Receptors	0106	D-AP5	Potent and selective NMDA antagonist; more active form of DL-AP5 (Tocris, Catalog # 0105)
NMDA Receptors	3693	DL-AP5 sodium salt	Sodium salt of DL-AP5 (Tocris, Catalog # 0105)
NMDA Receptors	1409	CGP 39551	Potent, selective and competitive NMDA antagonist
NMDA Receptors	1594	Ro 25-6981	Subtype-selective NR2B antagonist
Transporters	5082	LDN 212320	Increases EAAT2 expression; neuroprotective
Transporters	1223	DL-TBOA	Selective non-transportable inhibitor of EAATs

SELECT SMALL MOLECULES AND PEPTIDES

Category	Catalog #	Product Name	Primary Action
Kinases			
DYRK	4997	INDY	Dyrk1A/B inhibitor
GSK-3	3194	BIO	Potent and selective GSK-3 inhibitor
GSK-3	4423	CHIR 99021	Highly selective GSK-3 inhibitor; enhances ESC self-renewal in combination with PD 0325901 (Tocris, Catalog # 4192)
JNK	4924	CEP 1347	Inhibitor of JNK signaling
LRRK	4629	GSK2578215A	Potent and selective LRRK2 inhibitor; brain penetrant
LRRK	4273	LRRK2-IN-1	Potent and selective LRRK2 inhibitor
PAK	5190	FRAX 486	Potent p21-Activated Kinase (PAK) inhibitor; brain penetrant and orally bioavailable
PERK	5107	GSK 2606414	Potent and selective PERK inhibitor; orally bioavailable
Melatonin			
MT ₂ Receptors	1034	4-P-PDOT	MT ₂ antagonist
Non-Selective	0877	Luzindole	Competitive Melatonin MT ₁ /MT ₂ antagonist
Neuronal Metabolism			
A β Peptides	5081	J 147	Neuroprotective and neurotrophic compound; reduces A β 40 and A β 42 levels
FAAH	4175	PF 3845	Selective FAAH inhibitor
MAGL	3836	JZL 184	Monoacylglycerol Lipase (MAGL) inhibitor
Monoamine Oxidase	4308	Rasagiline mesylate	Selective and irreversible MAO-B inhibitor
α -Synuclein	5131	NAB 2	Protects against α -Synuclein toxicity; promotes Rsp5/NEDD4-dependent endosomal transport
γ -Secretase	2634	DAPT	γ -Secretase inhibitor; reduces A β 40 and A β 42 levels
Neuropeptides			
CGRP Receptors	4314	SB 268262	Selective non-peptide CGRP ₁ antagonist
Neuropeptide S Receptors	5161	ML 154	Potent Neuropeptide S Receptor antagonist
Neuropeptide S Receptors	4510	SHA 68	Selective Neuropeptide S Receptor antagonist
Neuropeptide W/B Receptors	4948	CYM 50769	Novel non-peptide NPBWR1 antagonist
Neuropeptide Y Receptors	2199	CGP 71683	Highly selective and potent non-peptide NPY Y ₅ Receptor antagonist
Orexin Receptors	4983	ACT 335827	Potent and selective OX ₁ antagonist
Orexin Receptors	4558	EMPA	Highly potent and selective OX ₂ antagonist; brain penetrant
Orexin Receptors	1455	Orexin A (human, rat, mouse)	Endogenous agonist at OX ₁ and OX ₂
Orexin Receptors	1960	SB 334867	Selective non-peptide OX ₁ antagonist
Opioids			
κ Receptors	0347	<i>nor</i> -Binaltorphimine	Selective κ Opioid Receptor antagonist
μ Receptors	1171	DAMGO	Selective μ Opioid Receptor agonist

Tocriscreen Total (Catalog # 2884)

1120 Biologically Active Compounds Pre-Dissolved in DMSO (250 μ L, 10 mM solutions)

Includes numerous neurotransmitter receptor agonists and antagonists, uptake inhibitors, ion channel blockers and enzyme inhibitors

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SELECT SMALL MOLECULES AND PEPTIDES

Category	Catalog #	Product Name	Primary Action
Photoswitchable Ligands			
Photoswitchable Ligands	5462	AAQ	Photoswitchable K _v channel blocker
Photoswitchable Ligands	5470	QAQ	Photoswitchable Na _v , K _v , Ca _v channel blocker
Purinergic P2			
P2X Receptors	2972	A 438079	Competitive P2X ₇ antagonist
P2X Receptors	3323	AZ 10606120	Potent P2X ₇ antagonist
P2X Receptors	5299	JNJ 47965567	Potent and selective P2X ₇ antagonist; brain penetrant
P2X Receptors	1391	NF 449	Highly selective P2X ₁ antagonist
P2Y Receptors	3321	AR-C 66096 tetrasodium salt	Potent and selective P2Y ₁₂ antagonist
P2Y Receptors	2157	MRS 2365	Highly potent and selective P2Y ₁ agonist
P2Y Receptors	2159	MRS 2500	Extremely potent and selective P2Y ₁ antagonist
Non-Selective	3209	α,β -Methyleneadenosine 5'-triphosphate trisodium salt	P2 agonist
TRK			
TrkB Receptors	2837	BDNF (human)	Activates TrkB and p75 Receptors
TrkB Receptors	3826	7,8-Dihydroxyflavone	TrkB agonist
TRP Channels			
TRPA Channels	2896	HC 030031	Selective TRPA1 blocker
TRPA Channels	1531	Icilin	Activates a novel cold receptor; cooling agent
TRPC Channels	4912	GsMTx4	TRPC1 and TRPC6 blocker; inhibits mechanosensitive ion channels
TRPC Channels	4732	ML 204	Selective TRPC4 blocker
TRPC Channels	1147	SKF 96365	TRPC channel blocker; also inhibits store-operated Ca ²⁺ entry
TRPM Channels	4632	TC-I 2000	TRPM8 blocker
TRPM Channels	3040	WS 12	TRPM8 agonist; cooling agent
TRPV Channels	4319	A 784168	Potent and selective TRPV1 antagonist
TRPV Channels	0464	Capsazepine	Vanilloid Receptor antagonist; also activator of ENACs
TRPV Channels	5106	GSK 2193874	Potent and selective TRPV4 inhibitor; orally active
Voltage-Gated Ion Channels			
Calcium Channels	1085	ω -Conotoxin GVIA	Ca ²⁺ channel blocker (N-type)
Calcium Channels	2198	Mibefradil	Ca ²⁺ channel blocker (T-type)
Calcium Channels	3954	<i>trans</i> -Ned 19	NAADP antagonist; inhibits Ca ²⁺ release
Calcium Channels	3775	Pregabalin	Anticonvulsant; selectively binds the $\alpha_2\delta$ subunit of voltage-sensitive calcium channels
Chloride Channels	3430	CFTR _{inh} 172	Voltage-independent, selective CFTR chloride channel blocker
Chloride Channels	4538	T16A _{inh} - A01	Ca ²⁺ -activated Cl ⁻ Channel Transmembrane Protein 16A (TMEM16A) inhibitor
Potassium Channels	1808	E-4031	K _v 11.1 (hERG) channel blocker; inhibits rapid delayed rectifier K ⁺ current (I _{Kr})
Potassium Channels	5011	HMR 1556	Potent and selective I _{ks} channel blocker
Potassium Channels	4949	MaxiPost	K ⁺ channel modulator; exerts subtype-specific effects
Potassium Channels	4777	ML 277	Selective K _v 7.1 (KCNQ1) potassium channel activator; augments I _{ks} current
Potassium Channels	1316	Tertiapin-Q	Selective blocker of inward-rectifier K ⁺ channels
Potassium Channels	4952	TRAM 39	Potent K _{ca} 3.1 blocker
Sodium Channels	2976	A 803467	Selective Na _v 1.8 blocker
Sodium Channels	5066	ICA 121431	Selective Na _v 1.3 and Na _v 1.1 blocker
Sodium Channels	4691	NAV 26	Selective Na _v 1.7 channel blocker

CELL CULTURE AND NEURAL STEM CELLS

Bio-Techne offers a range of high-quality and affordable neural cell culture reagents that support neural stem cell (NSC) experimentation and ensure that your neuroscience workflow is efficient and reliable.

Complete Workflow Coverage

- We have products for all aspects of NSC experimentation, from culture and expansion to differentiation and verification.

Minimize Experimental Variability

- From our cell culture media and stem cell kits to our individual growth factors and antibodies, our products are designed and tested to guarantee performance consistency.

Save Time and Money

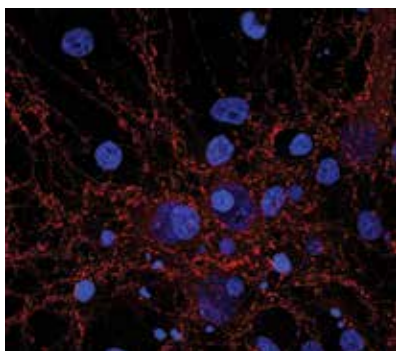
- Our products reduce experimental variability to prevent wasted effort and reagents and allow for more confident data analysis.

Neural Media Supplements

Our serum-free cell culture media supplements are designed for the optimal, long-term growth of NSCs and neuronal cultures and are an affordable equivalent to standard commercial neuronal culture media.

N21-MAX Media Supplements

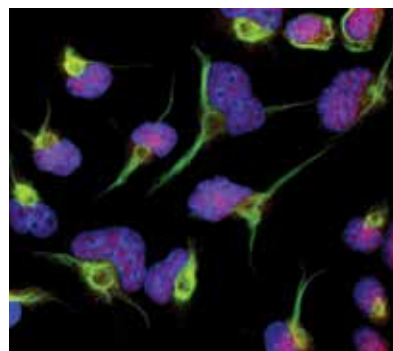
Improving upon the formulation of traditional B27 and NS21 neuronal supplements, our range of N21-MAX Media supplements are designed to optimize the maturation, health, and function of primary neurons in culture. Each lot is checked in-house for performance consistency.



N21-MAX Vitamin A Free Media Supplement Maintains Healthy Primary Neurons in Culture. E18 rat hippocampal neurons were grown for 21 days *in vitro* in media supplemented with N21-MAX Vitamin A Free Media Supplement (Catalog # AR012). The cells were then stained with a Mouse Anti-Rat Synaptotagmin Monoclonal Antibody (Catalog # MAB4364) followed by the NL557-Conjugated Donkey Anti-Mouse IgG Secondary Antibody (Catalog # NL007; red) and counterstained with DAPI (blue). All cited reagents are from R&D Systems.

N-2 Media Supplements

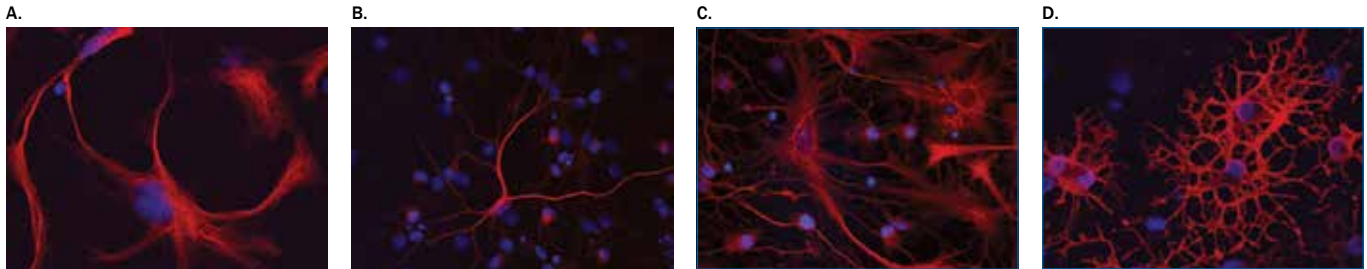
N-2 MAX and N-2 Plus are designed for the efficient expansion and differentiation of NCSs. They can also be used to maintain and mature a range of NSC-differentiated cell types including astrocytes and oligodendrocytes. Each lot is checked in-house for performance consistency.



N-2 MAX Media Supplement Provides Optimal Growth Conditions for Neural Progenitor Cell Expansion Human neural progenitor cells were maintained in culture with N-2 MAX Media Supplement (Catalog # AR009). The cells were then stained for SOX1 expression using a Goat Anti-Human SOX1 Antigen Affinity-Purified Polyclonal Antibody (Catalog # AF3369) followed by a NL557-Conjugated Donkey Anti-Goat IgG Secondary Antibody (Catalog # NL001; red). The cells were also stained for Nestin expression using a Mouse Anti-Mouse/Rat Nestin Monoclonal Antibody (Catalog # MAB2736) followed by a NL493-Conjugated Donkey Anti-Mouse IgG Secondary Antibody (Catalog # NL009; green). The cells were counterstained with DAPI (blue). All cited reagents are from R&D Systems.

Identification and Verification Kits

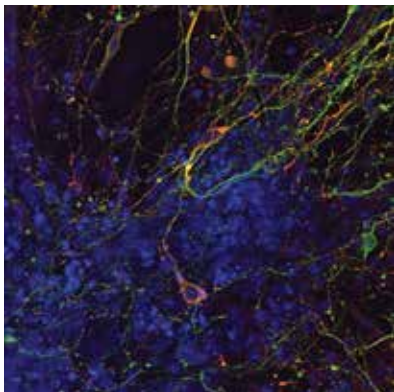
Validating the multipotency of a NSC population prior to its expansion, differentiation, and experimentation will ensure confidence when analyzing the data from downstream experiments. Using suboptimal, unverified NSC populations puts you at risk for inconsistent results, thus wasting time and reagents. We offer a variety of solutions to quickly and confidently assess NSC multipotency.



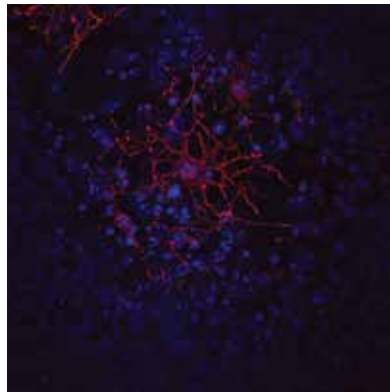
Functional Verification of Neural Progenitor Cell Multipotency. Rat neural progenitor cells (A) were maintained in culture and differentiated towards neural lineages using the Human/Mouse/Rat Neural Lineage Functional Identification Kit (R&D Systems, Catalog # SC028). NSC differentiation into neurons (B), astrocytes (C), and oligodendrocytes (D) was validated using the cell-specific marker antibodies supplied in the kit. Neural progenitor cells were detected using a Goat Anti-Rat Nestin Antigen Affinity-Purified Polyclonal Antibody, neurons were detected using a Mouse Anti-Neuron-Specific β III Tubulin Monoclonal Antibody, astrocytes were detected using a Sheep Anti-Human GFAP Antigen Affinity-Purified Polyclonal Antibody, and oligodendrocytes were detected using a Mouse Anti-Oligodendrocyte Marker O4 Monoclonal Antibody. The nuclei were counterstained with DAPI (blue).

Differentiation Kits

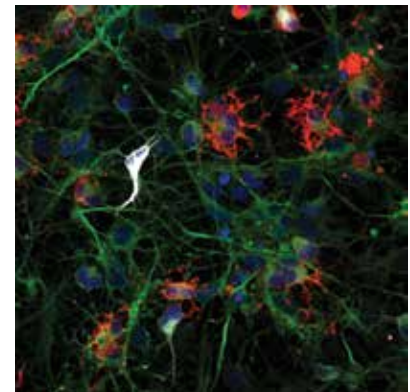
Efficient and consistent NSC differentiation is essential for maximizing research productivity, increasing data reliability, and reducing the cost and labor associated with lengthy differentiation protocols. Our all-in-one kits are specifically designed to efficiently differentiate NSCs into neuronal cell-types. In addition, we offer a wide selection of small molecules to enhance NSC differentiation.



Dopaminergic Neurons Generated from iPS Cells Using the Dopaminergic Neuron Differentiation Kit. Human induced pluripotent stem (iPS) cells were differentiated into dopaminergic neurons using the Human/Mouse Dopaminergic Neuron Differentiation Kit (Catalog # SC001B). A dopaminergic phenotype was confirmed using a Mouse Anti-Human Tyrosine Hydroxylase Monoclonal Antibody (Catalog # MAB7566) followed by the NL557-Conjugated Donkey Anti-Mouse IgG Secondary Antibody (Catalog # NL007; red). The cells were also stained with a Mouse Anti-Neuron-Specific β III Tubulin (Clone TuJ-1) Monoclonal Antibody (Catalog # MAB1195) followed by the NL493-Conjugated Donkey Anti-Mouse IgG Secondary Antibody (Catalog # NL009; green). The nuclei were counterstained with DAPI (blue). All cited reagents are from R&D Systems.



Mouse Oligodendrocytes Generated Using the Oligodendrocyte Differentiation Kit. D3 mouse embryonic stem cells were expanded in KO-ES media and differentiated into oligodendrocytes using the Mouse Oligodendrocyte Differentiation Kit (Catalog # SC004). An oligodendrocyte phenotype was detected using a Mouse Anti-Human/Mouse/Rat/Chicken Oligodendrocyte Marker O4 Monoclonal Antibody (Catalog # MAB1326) followed by staining with the NL557-Conjugated Goat Anti-Mouse IgM Secondary Antibody (Catalog # NL019; red). The nuclei were counterstained with DAPI (blue). All cited reagents are from R&D Systems.



β III Tubulin, GFAP, and Oligodendrocyte Marker O4 in Differentiated Rat Cortical Stem Cells. Rat cortical stem cells (Catalog # NSC001) were differentiated into neurons, astrocytes, and oligodendrocytes using the Human/Mouse/Rat Neural Lineage Functional Identification Kit (Catalog # SC028). Differentiated cells were stained with cell-specific antibodies from the Human/Mouse/Rat Neural 3-Color Immunocytochemistry Kit (Catalog # SC024). Neurons were stained with a NL637-Conjugated Mouse Anti-Neuron-Specific β III Tubulin Monoclonal Antibody (Clone TuJ-1; white), astrocytes were stained with a NL493-Conjugated Sheep Anti-GFAP Antigen Affinity-Purified Polyclonal Antibody (green), and oligodendrocytes were stained with a NL557-Conjugated Mouse Anti-Oligodendrocyte Marker O4 Monoclonal Antibody (red). The nuclei were counterstained with DAPI (blue). All cited reagents are from R&D Systems.

CELL CULTURE AND NEURAL STEM CELLS

Cortical Stem Cells and Cryopreservation Medium

Product	Catalog #	Description
Rat Primary Cortical Stem Cells	NSC001	Isolated from E14.5 Sprague-Dawley rats; 3 x 10 ⁶ cells/vial
Mouse Primary Cortical Stem Cells	NSC002	Isolated from E14.5 CD-1 mice; 2 x 10 ⁶ cells/vial
CryoDefend™-Stem Cells	CCM018	Media for protein-free cryopreservation of stem cells

Cell Culture Supplements and Substrates

Product	Catalog #	Description
N-2 Plus Media Supplement	AR003	Optimized for neural progenitor cells and their differentiated derivatives; contains bovine Insulin
N-2 MAX Media Supplement	AR009	Optimized for neural progenitor cells and their differentiated derivatives; contains recombinant human Insulin
N21-MAX Media Supplement	AR008	Superior growth supplement for the long-term culture of neurons; optimized formulation of the original B27 ingredients
N21-MAX Insulin Free Media Supplement	AR010	Growth supplement for insulin-sensitive neuronal cell cultures; optimized and insulin-free formulation of the original B27 ingredients
N21-MAX Vitamin A Free Media Supplement	AR012	For neural stem cell expansion; limits retinoic acid production to reduce unwanted differentiation
Holo-Transferrin	2914-HT	Facilitates iron transport and improves cell proliferation in culture
StemXVivo™ Culture Matrix	CCM013	A defined matrix for the growth and differentiation of stem cells and progenitor cells
Human Fibronectin, CF	1918-FN	Carrier Free, plasma-derived protein that facilitates NSC adherence to culture dishes and promotes NSC expansion <i>in vitro</i> ; does not contain BSA
Mouse Fibronectin, CF	1030-FN	Carrier Free, plasma-derived protein that facilitates NSC adherence to culture dishes and promotes NSC expansion <i>in vitro</i> ; does not contain BSA
Recombinant Human Fibronectin Full, CF	4305-FN	Carrier Free, NS0 murine myeloma cell line-derived protein that facilitates NSC adherence to culture dishes and promotes NSC expansion <i>in vitro</i> ; does not contain BSA
Recombinant Human Fibronectin Fragment 2	3225-FN	Carrier Free, NS0 murine myeloma cell line-derived protein that facilitates NSC adherence to culture dishes and promotes NSC expansion <i>in vitro</i> ; does not contain BSA
Recombinant Human Fibronectin Fragment 3	3938-FN	Carrier Free, NS0 murine myeloma cell line-derived protein that facilitates NSC adherence to culture dishes and promotes NSC expansion <i>in vitro</i> ; does not contain BSA
Recombinant Human Fibronectin Fragment 4	3624-FN	Carrier Free, NS0 murine myeloma cell line-derived protein that facilitates NSC adherence to culture dishes and promotes NSC expansion <i>in vitro</i> ; does not contain BSA
Recombinant Human Fibronectin, ACFP	ACFP4305	Animal Component-Free Process (ACFP) Fibronectin, derived from the <i>baculovirus Spodoptera frugiperda</i> , Sf 9; facilitates NSC adherence to culture dishes and promotes NSC expansion <i>in vitro</i>
Cultrex® Poly-L-Lysine	3438-100-01	A highly positively charged amino acid chain; used as a coating agent to promote cell adhesion in culture

NSC Kits

Product	Catalog #	Description	Species
Neural Lineage Functional Identification Kit	SC028	Verify multipotency of human, mouse, and rat neural progenitor cells (NPCs) by functional differentiation	H, M, R
Neural 3-Color Immunocytochemistry Kit	SC024	Characterize human, mouse, and rat neural cells differentiated from NPCs	H, M, R
Neural Progenitor Cell Marker Antibody Panel	SC025	Contains a collection of neural progenitor markers to verify multipotency	H, M, R
Dopaminergic Neuron Differentiation Kit	SC001B	Differentiates human and mouse ES/iPS cells into dopaminergic neurons under serum-free conditions	H, M
Oligodendrocyte Differentiation Kit	SC004	Differentiates mouse ES/iPS cells into oligodendrocytes under serum-free conditions	M

CELL CULTURE AND NEURAL STEM CELLS

Proteins for NSC Research

Molecule	Catalog #	Species	Source
BDNF	248-BD	H, M, R, Ca, E	<i>Sf</i> 21
BMP-2	355-BM	H	CHO
BMP-4	314-BP	H	NSO
BMP-4	5020-BP	M	CHO
CNTF	257-NT	H	<i>E. coli</i>
CNTF	557-NT	R	<i>E. coli</i>
EGF	236-EG	H	<i>E. coli</i>
EGF	2028-EG	M	<i>E. coli</i>
EGF	3214-EG	R	<i>E. coli</i>
FGF basic	3139-FB	M	<i>E. coli</i>
FGF basic	3339-FB	R	<i>E. coli</i>
FGF basic	233-FB	H	<i>E. coli</i>
FGF-8b	423-F8	H, M	<i>E. coli</i>
FGF-10	345-FG	H	<i>E. coli</i>
FGF-10	6224-FG	M	<i>E. coli</i>
FGF-10	7804-FG	R	<i>E. coli</i>
GNDF	212-GD	H	NSO
GNDF	512-GF	R	<i>Sf</i> 21
IGF-I	291-G1	H	<i>E. coli</i>
IGF-I	791-MG	M	<i>E. coli</i>
IGF-I	4326-RG	R	<i>E. coli</i>
β-NGF	256-GF	H	NSO
β-NGF	1156-NG	M	NSO
β-NGF	556-NG	R	<i>Sf</i> 21
NT-3	267-N3	H	<i>Sf</i> 21
NT-4	268-N4	H	<i>Sf</i> 21
NT-4	3236-N4	M	NSO
PDGF	120-HD	H	Human Platelets
PDGF-AA	221-AA	H	<i>E. coli</i>
PDGF-AA	1055-AA	R	<i>E. coli</i>
PDGF-AB	222-AB	H	<i>E. coli</i>
PDGF-AB	1115-AB	R	<i>E. coli</i>
PDGF-BB	220-BB	H	<i>E. coli</i>
PDGF-BB	520-BB	R	<i>E. coli</i>
Sonic Hedgehog/Shh (C24II) N-Terminus	1845-SH	H	<i>E. coli</i>
Sonic Hedgehog/Shh (C25II) N-Terminus	464-SH	M	<i>E. coli</i>
VEGF 164	493-MV	M	<i>Sf</i> 21
VEGF 164	564-RV	R	NSO
VEGF 165	293-VE	H	<i>Sf</i> 21

Species Key: H Human, M Mouse, R Rat, Ca Canine, E Equine

Source Key: CHO (Chinese hamster ovary cell line), NSO (Mouse myeloma cell line), *Sf* (*Spodoptera frugiperda*)

CELL CULTURE AND NEURAL STEM CELLS

Small Molecules for NSC Expansion

Product	Catalog #	Primary Action
17-AAG	1515	Selective HSP90 inhibitor; protects neural progenitors from naturally occurring apoptosis
Amiodarone	4095	Ion channel blocker; selectively inhibits NSC proliferation in hESC-derived cell populations
CHIR 99021	4423	Selective GSK-3 inhibitor; enhances ESC self-renewal in combination with PD 0325901 (Tocris, Catalog # 4192)
Cyclopamine	1623	Hedgehog signaling inhibitor; suppresses the proliferation of Ptch1 ^{+/-} medulloblastoma precursor cells
DMH-1	4126	Selective ALK2 Receptor inhibitor; promotes iPSC neurogenesis in combination with SB 431542 (Tocris, Catalog # 1614)
INDY	4997	Dyrk1A/B inhibitor; impairs the self-renewal capacity of NSCs
P7C3	4076	Neuroprotective and proneurogenic compound; orally available
SB 431542	1614	Induces proliferation, differentiation and sheet formation of ESC-derived endothelial cells
SU 5402	3300	Potent FGF R and VEGF R inhibitor; attenuates Integrin β 4-mediated differentiation of neural stem cells
Y-27632	1254	Selective p160ROCK inhibitor; enhances survival of hES cells undergoing cryopreservation

Small Molecules for NSC Differentiation

Product	Catalog #	Primary Action
DAPT	2634	γ -Secretase inhibitor; induces neuronal differentiation of neural cells
Fluoxetine	0927	5-HT re-uptake inhibitor; induces differentiation of neuronal precursors
Forskolin	1099	Adenylyl Cyclase activator; induces neuronal differentiation in NSCs
Isotretinoin	5513	Inducer of neuronal differentiation; endogenous agonist for retinoic acid receptors
ISX 9	4439	Induces neuronal differentiation of SVZ progenitors
KHS 101	4888	Selective inducer of neuronal differentiation in hippocampal neural progenitors
Metformin	2864	Antidiabetic agent; promotes neurogenesis
Neurodazine	3656	Induces neurogenesis in mature skeletal muscle cells
Neuropathiazol	5186	Selective inducer of neuronal differentiation in hippocampal neural progenitors
1-Oleoyl lysophosphatidic acid sodium salt	3854	Endogenous agonist of LPA ₁ and LPA ₂ ; inhibits differentiation of NSCs into neurons
O-Phospho-L-serine	0238	Group III mGlu agonist; inhibits proliferation and enhances neuronal differentiation of progenitor cells
Retinoic acid	0695	Retinoic Acid Receptor agonist; promotes differentiation of ESCs into neurons, glia and adipocytes
TCS 2210	3877	Inducer of neuronal differentiation in MSCs
TWS 119	3835	GSK-3 β inhibitor; induces neuronal differentiation in ESCs
Valproic acid, sodium salt	2815	Histone Deacetylase inhibitor; promotes neuronal differentiation

Antibodies to Investigate Synapse Development

Molecule	Catalog #	Brand	Species	Clonality	Applications	Conjugates
CaMKII α	NB100-1983	Novus Biologicals	H, M, R +	Mono	WB, ICC, IHC, ELISA, IP, RI	Yes
EAAT1/GLAST-1	AF6048	R&D Systems	H	Poly	WB, IHC	No
HOMER	NBP1-44999	Novus Biologicals	H, M, R +	Poly	WB, ICC	No
Neuroigin 1	AF4340	R&D Systems	H, R	Poly	WB, IHC	Yes
NMDA Receptor 2B	NB300-106	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC, FC, IP	No
PSD-95	NB300-556	Novus Biologicals	H, M, R +	Mono	WB, ICC, IHC, B/N, ChIP, FC, IP	Yes
Synapsin I	NB300-104	Novus Biologicals	H, M, R	Poly	WB, ICC, IHC, IP	No
Synaptophysin	NB300-653	Novus Biologicals	H, M, R +	Poly	WB, ICC, IHC, IP	No
Synaptotagmin-1	MAB43641	R&D Systems	R	Mono	WB, IHC, IP	No
Synuclein- α	NBP1-26380	Novus Biologicals	H, M	Mono	WB, IHC, FC	Yes

Species Key: H Human, M Mouse, R Rat, + Additional Species Available **Applications Key:** B/N (Blocking/Neutralization), ChIP (Chromatin Immunoprecipitation), ELISA (ELISA Capture and/or Detection), FC (Flow Cytometry), ICC (Immunocytochemistry), IHC (Immunohistochemistry), IP (Immunoprecipitation), RI (Radioimmunoassay), and WB (Western blot)

Bulk Quantities

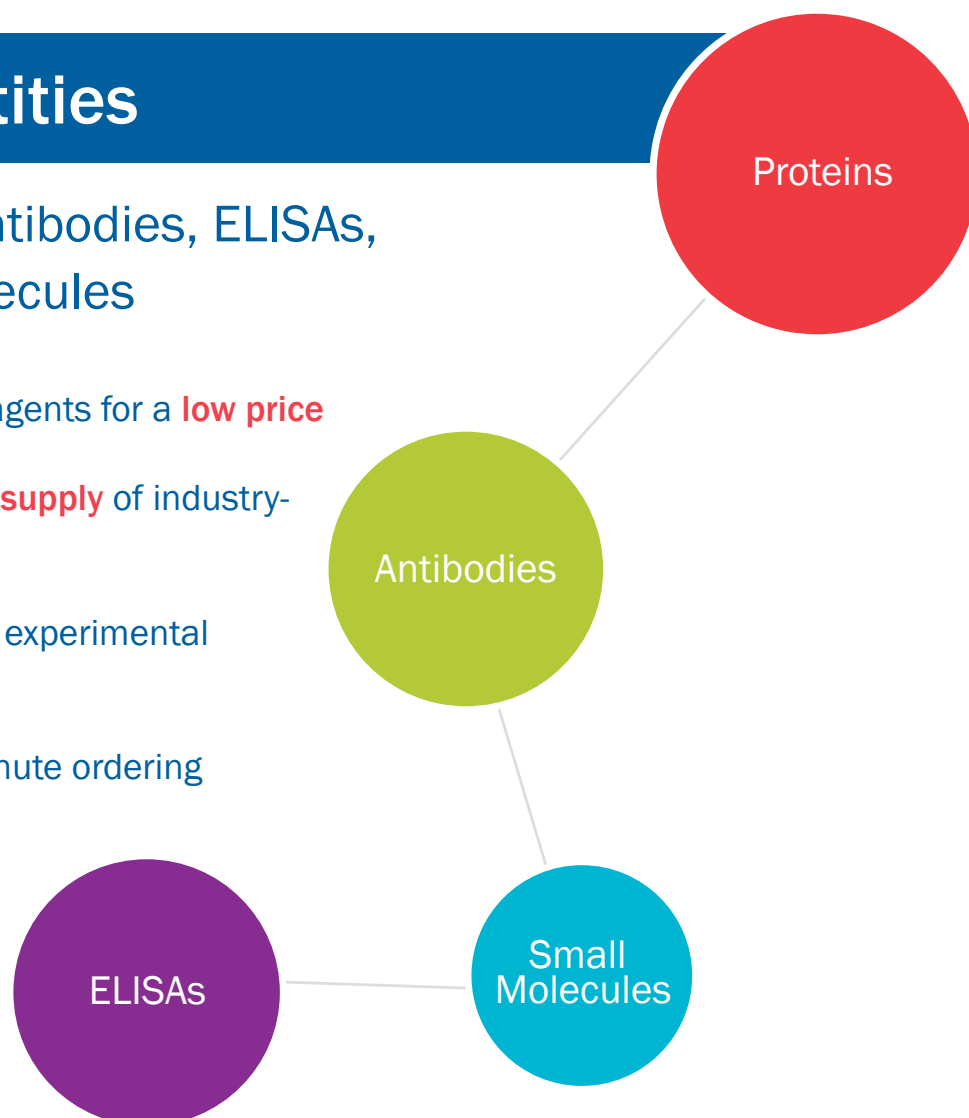
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