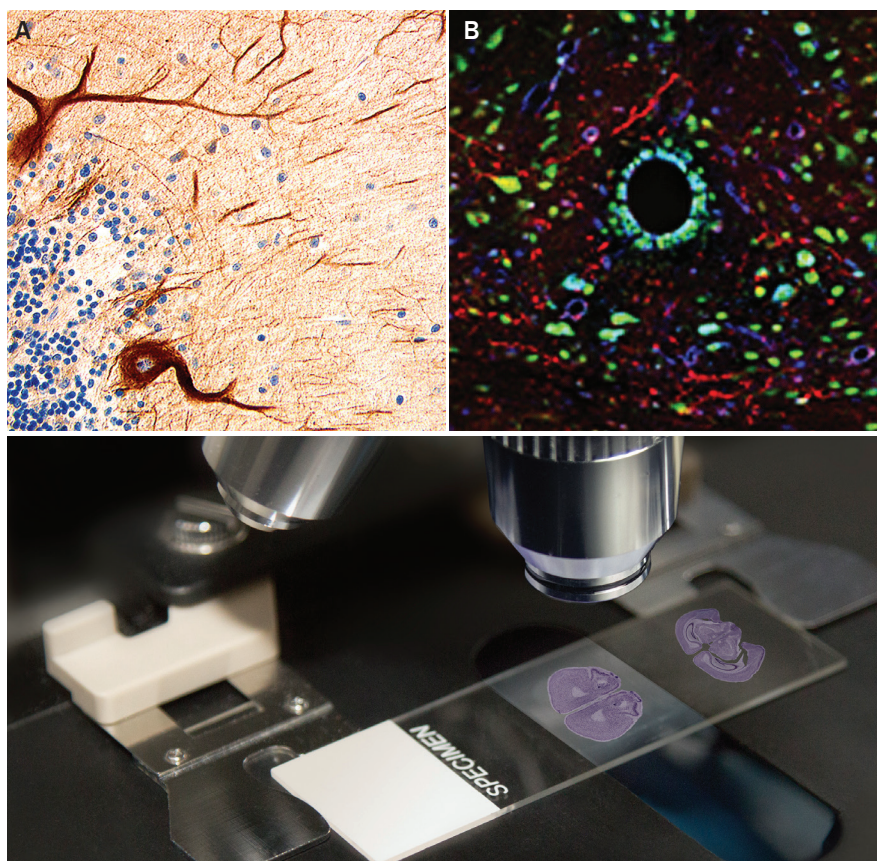


Blood-Brain Barrier

Antibodies for Cell Markers, ECM and Adhesion Molecules, Transporters



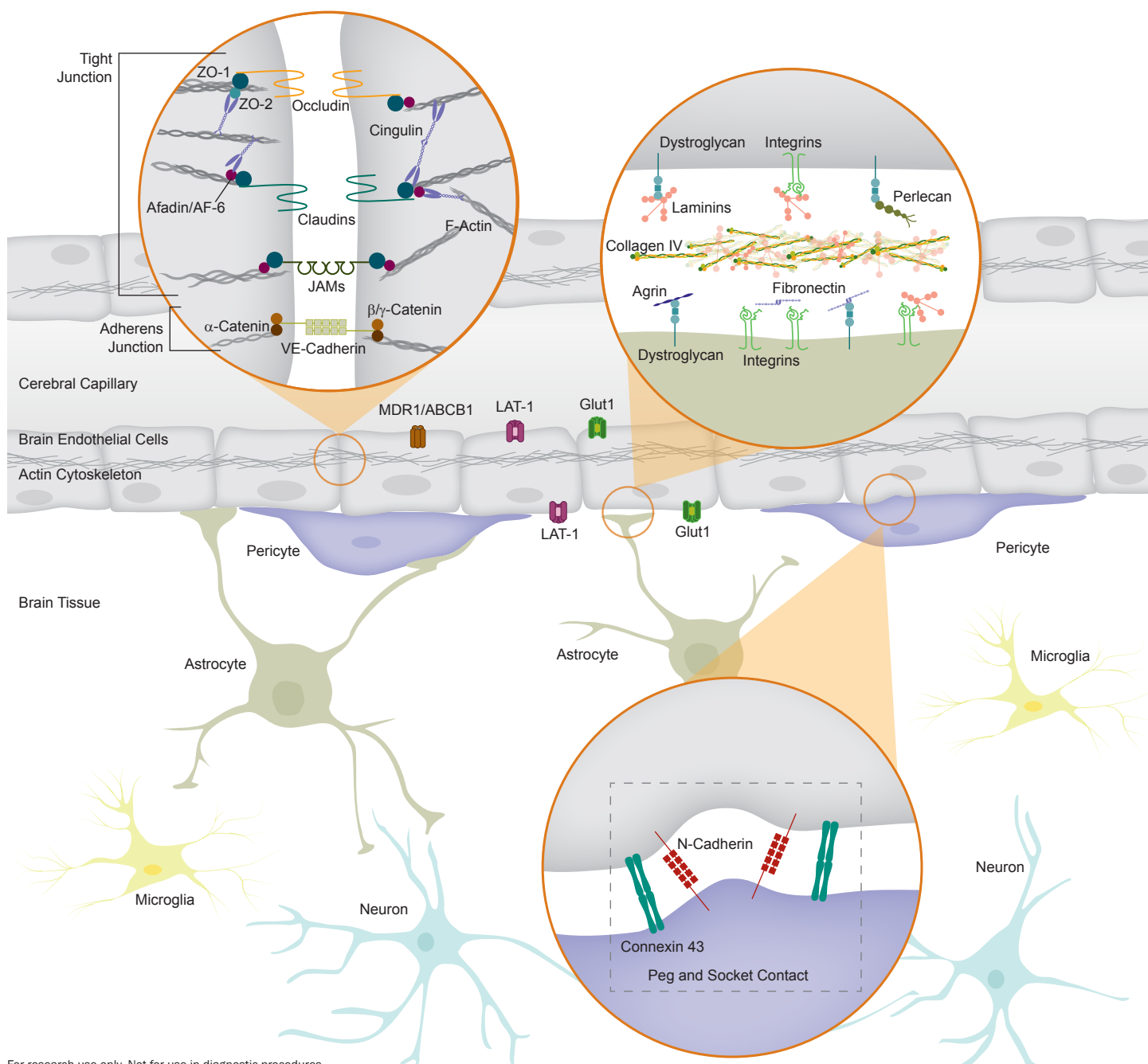
Legends on back cover

Blood-Brain Barrier

The blood-brain barrier (BBB) is a dynamic interface between the peripheral circulation and the central nervous system (CNS). The basic element of the BBB, the neurovascular unit, is a complex structure composed of capillary endothelial cells (ECs), astrocytes, pericytes, and neurons. The anatomical integration of these cells and their interaction with additional perivascular elements form a selective diffusion barrier that regulates the movement of substances into and out of the CNS. Dysfunction of the BBB is associated with a multitude of neurological disorders including Alzheimer's disease, Parkinson's disease, and multiple sclerosis.

Brain ECs are unique in that they lack the fenestrations that characterize ECs throughout the rest of the body. Additionally, they are connected to one another by a multifaceted junction complex comprised of tight and adherens junctions that seal the paracellular spaces between adjacent ECs. As a consequence, only small lipid soluble molecules are able to passively pass through the BBB. Movement of all other molecules across the BBB is dependent on the presence of transporter proteins in brain ECs. Astrocytic end-feet support and maintain the tight junctions between brain ECs and provide a link to nearby neurons. In addition, brain ECs are enveloped by finger-like processes from pericytes localized to the EC abluminal membrane. Pericytes and ECs share a common basement membrane and bind to extracellular matrix (ECM) proteins of the basement membrane via ECM receptors. Direct peg and socket contacts containing cell-to-cell junction proteins maintain the connection between pericytes and ECs in areas where there is no basement membrane.

R&D Systems offers an extensive collection of antibodies for detection of many components of the BBB including specific cell types, ECM and adhesion molecules, and transporter proteins.

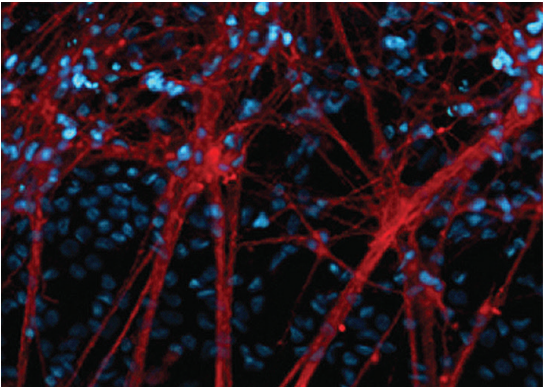


Cell Markers

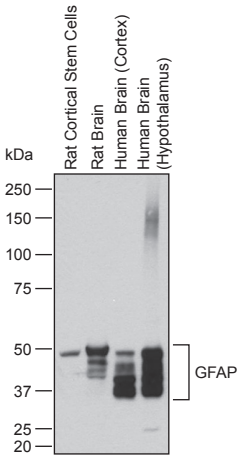
Cell Type: Astrocyte	Antibody Species (Application)
CD44	Human (FC, ICC, IHC, IP, WB) Mouse (B/N, FC, ICC, WB) Rat (B/N, FC, ICC, WB) Canine (FC)
GFAP	Human (ICC, WB) Rat (ICC, WB)
S100B	Human (IHC, WB)
Cell Type: Endothelial Cell	Antibody Species (Application)
CD31/PECAM-1	Human (FC, ICC, IP, WB) Mouse (FC, IHC, WB) Rat (FC) Porcine (FC, WB)
EMMPRIN/CD147	Human (FC, ICC, IHC, WB) Mouse (FC, WB)
Glut1	Human (FC, ICC, IHC, WB)
Transferrin R	Human (B/N, FC, IHC, WB)
vWF-A2	Human (FC, ICC, IP, WB)
Cell Type: Neuron	Antibody Species (Application)
β-III Tubulin	Multi-species (FC, ICC, WB)
Choline Acetyltransferase/ChAT	Human (IHC, WB)
Dopa Decarboxylase/DDC	Human (ICC, IP, WB) Rat (WB) Bovine (WB) Canine (WB) Guinea Pig (WB) Rabbit (WB) Sheep (WB)
Enolase 2/Neuron-Specific Enolase	Human (IHC, IP, WB) Mouse (IHC, WB)
GAD1/GAD67	Human (ICC, IHC, WB)
GAD2/GAD65	Human (IHC, WB)
α-Internexin	Human (IHC, WB) Mouse (WB) Rat (WB)
NF-H	Human (IHC, WB)
NF-L	Human (IHC, WB)
NF-M	Human (IHC, WB)
PSD-95	Human (WB) Mouse (WB) Rat (WB)
PSMA/FOLH1/NAALADase I	Human (ICC, IHC, FC, WB)
Synaptophysin	Human (ICC, IHC, WB) Rat (ICC, IHC, WB)
Tryptophan Hydroxylase	Multi-species (IHC, WB)
Tryptophan Hydroxylase 1/TPH-1	Human (IHC, IP, WB) Mouse (WB) Rat (WB) Bovine (WB) Canine (WB) Chicken (WB) Multi-species (IHC, WB) Primate (WB) Rabbit (WB) <i>Xenopus</i> (WB) Zebrafish (WB)
Tryptophan Hydroxylase 2	Multi-species (IHC, WB)
Tyrosine Hydroxylase/TH	Human (ICC, IHC, WB) Mouse (ICC, IF, IHC, WB) Rat (ICC, IF, IHC, WB) Primate (IF, IHC, WB)
VAMP-1	Human (IHC, WB) Mouse (IHC, WB)

Cell Type: Pericyte	Antibody Species (Application)
Aminopeptidase A	Mouse (IP, WB)
Aminopeptidase N	Human (FC, IHC, IP, WB) Mouse (FC, ICC, IP, WB)
Angiopoietin-2	Human (E, IHC, WB) Mouse (WB)
Nestin	Human (FC, ICC) Mouse (FC, ICC, WB) Rat (FC, ICC, IHC, WB)
NG2/MCSP	Human (FC, IHC, IP, WB) Mouse (IHC)
PDGF Rβ	Human (B/N, FC, IHC, IP, WB) Mouse (IHC, WB)

Applications Key
B/N Blocking/Neutralization E ELISA FC Flow Cytometry ICC Immunocytochemistry
IF Immunofluorescence IHC Immunohistochemistry IP Immunoprecipitation WB Western blot



β-III Tubulin in Differentiated Human iPS Cells. β-III Tubulin was detected in immersion-fixed differentiated human induced pluripotent stem (iPS) cells using a Mouse Anti-Neuron-Specific β-III Tubulin Monoclonal (clone TuJ-1) Antibody (Catalog # MAB1195). The cells were stained using a fluorescently-labeled secondary antibody (red) and then counterstained with Hoechst 33342 (blue).
Image from D’Aiuto, L. et al. (2012) PLoS One 7:e49700.



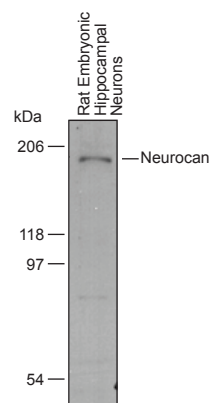
Detection of Human and Rat GFAP by Western Blot. Western blot shows lysates of rat cortical stem cells, rat brain tissue, human cortex, and human hypothalamus. The PVDF membrane was probed with a Sheep Anti-Human GFAP Antigen Affinity-Purified Polyclonal Antibody (Catalog # AF2594) followed by an HRP-Conjugated Donkey Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). Specific bands were detected for GFAP at approximately 35-50 kDa (as indicated). The multiple bands correspond to the multiple GFAP splice isoforms expressed in the brain.

ECM and Related Molecules

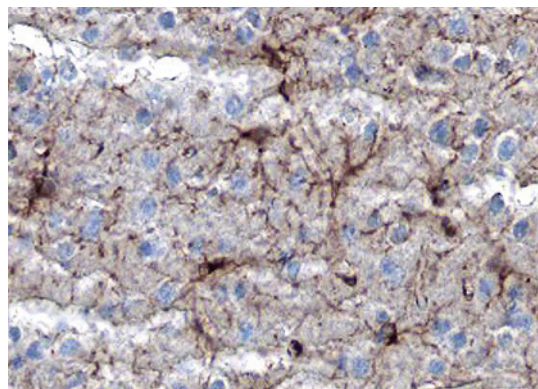
New Product

ECM Molecules	Antibody Species (Application)
Agrin	Rat (B/N, E, IHC, WB)
Collagen IV α 1	Human (ICC, WB)
Endostatin	Human (IHC, WB) Mouse (IHC, WB)
Fibromodulin/FMOD	Human (FC, WB) Mouse (WB) Rat (WB)
Fibronectin	Human (FC, ICC, IHC, IP, WB)
Laminin α 1	Mouse (IHC, WB)
Laminin α 3/Laminin-5	Human (B/N, ICC, IHC, IP, WB)
Laminin α 4	Human (ICC, IHC, WB) Mouse (IHC, WB)
Laminin γ 1	Human (ICC, IP, WB) Rat (ICC, IP, WB)
Laminin S	Human (ICC, IP, WB) Rat (ICC, IP, WB) Chicken (ICC, IP, WB)
Laminin-1	Mouse (B/N, IHC, WB)
Nidogen-1/Entactin	Human (E, ICC, IHC, WB)
Osteopontin/OPN	Human (B/N, E, FC, ICC, IHC, WB) Mouse (B/N, E, FC, IHC, WB)
SOD3/EC-SOD	Human (IHC, WB) Mouse (WB) Rat (WB)
SPARC	Human (FC, IHC, WB) Mouse (FC, IHC, WB)
Tenascin C	Human (B/N, ICC, WB) Mouse (B/N, ICC, WB)
Tenascin R	Human (IHC, WB) Mouse (IHC, WB) Rat (IHC, WB)
Thrombospondin-1	Human (E, IHC, IP, WB)
Thrombospondin-2	Human (E, WB)
Vitronectin	Human (IHC, WB) Mouse (IHC, WB)
vWF-A2	Human (FC, ICC, IP, WB)
Hyaluronan (HA) & HA-binding Proteins	Antibody Species (Application)
Aggrecan	Human (ICC, IHC, IP, WB)
Brevican	Human (B/N, ICC, IP, WB)
CD44	Human (FC, ICC, IHC, IP, WB) Mouse (B/N, FC, ICC, WB) Rat (B/N, FC, ICC, WB) Canine (FC)
Neurocan	Human (IHC) Mouse (IHC, WB) Rat (IHC, WB)
Versican	Human (ICC, IHC, IP, WB)
Proteoglycans & Regulators	Antibody Species (Application)
Aggrecan	Human (ICC, IHC, IP, WB)
Agrin	Rat (B/N, E, IHC, WB)
Brevican	Human (B/N, ICC, IP, WB)
Decorin	Human (E, IHC, WB) Mouse (E, IHC, WB)
Dystroglycan	Human (IHC, WB)
Endorepellin/Perlecan	Human (IHC, WB)
Neurocan	Human (IHC) Mouse (IHC, WB) Rat (IHC, WB)
NG2/MCSP	Human (FC, IHC, IP, WB) Mouse (IHC)
Versican	Human (ICC, IHC, IP, WB)

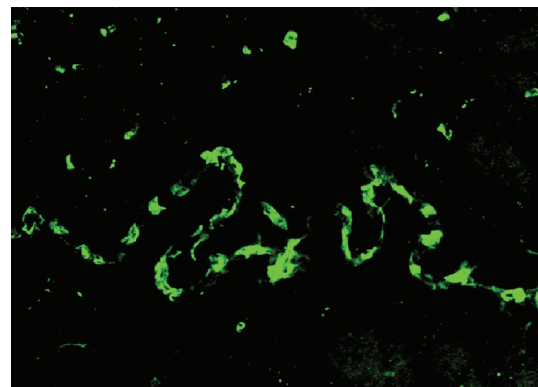
For research use only. Not for use in diagnostic procedures.



Detection of Rat Neurocan by Western Blot. Western blot shows lysates of rat embryonic hippocampal neurons. The PVDF membrane was probed with a Sheep Anti-Mouse/Rat Neurocan Antigen Affinity-Purified Polyclonal Antibody (Catalog # AF5800) followed by an HRP-conjugated Donkey Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Neurocan at approximately 200 kDa (as indicated).



NG2/MCSP in Mouse Cortex. Chondroitin Sulfate Proteoglycan NG2/Melanoma Associated Chondroitin Sulfate Proteoglycan (NG2/MCSP) was detected in perfusion-fixed frozen sections of mouse brain (cortex) using a Rat Anti-Mouse NG2/MCSP Monoclonal Antibody (Catalog # MAB6689). The tissue was stained using the Anti-Rat HRP-DAB Cell & Tissue Staining Kit (Catalog # CTS017; brown) and counterstained with hematoxylin (blue). Specific staining was localized to glial cells.



Laminin α 4 in Mouse Choroid Plexus. Laminin α 4 was detected in acetone-fixed frozen sections of mouse brain (choroid plexus) using a Goat Anti-Mouse Laminin α 4 Antigen Affinity-Purified Polyclonal Antibody (Catalog # AF3837) that had been directly conjugated to a fluorescent label (green).

Image from Flanagan, K. et al. (2012) PLoS One 7:e40443.

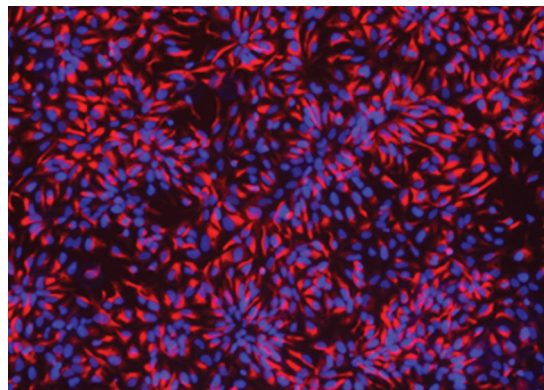
Applications Key

B/N Blocking/Neutralization E ELISA FC Flow Cytometry ICC Immunocytochemistry
IHC Immunohistochemistry IP Immunoprecipitation WB Western blot

Cytoskeletal Filaments and Associated Proteins

New Product

Microfilaments	Antibody Species (Application)
Actin	Human (ICC, WB) Mouse (ICC, WB) Rat (ICC, WB)
AIF-1/Iba1	Human (IHC)
Intermediate Filaments	Antibody Species (Application)
Desmin	Human (IHC, WB) Mouse (IHC)
Nestin	Human (FC, ICC) Mouse (FC, ICC, WB) Rat (FC, ICC, IHC, WB)
Vimentin	Human (FC, ICC, IHC, WB) Mouse (ICC) Rat (ICC)

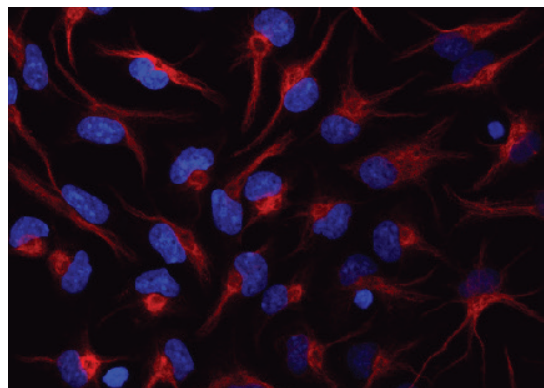


Nestin in Human Neural Stem Cells. Nestin was detected in immersion-fixed neural stem cells, which had been derived from the H9 human embryonic stem cell line, using a Mouse Anti-Human Nestin Monoclonal Antibody (Catalog # MAB1259). The cells were stained using a Cy3-conjugated goat anti-mouse IgG secondary antibody (red) and counterstained with DAPI (blue).
Image from Zeng, L. et al. (2013) PLoS One 8:e59685.

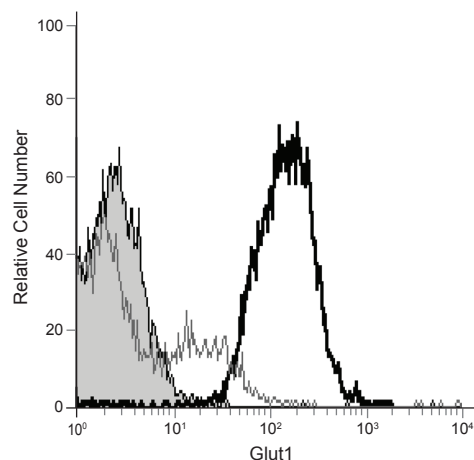
Transporters

New Product

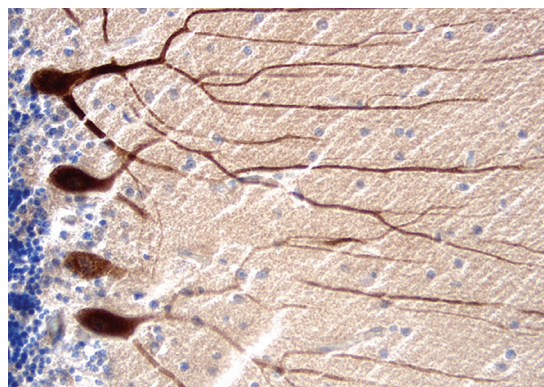
Transporter	Antibodies (Application)	Tocris Biochemicals & Compounds	cDNA Clones
ABCG2	Human (FC, ICC)	✓	Human
EN-RAGE	Human (FC, IHC, WB)	✓	
Glut1	Human (FC, ICC, IHC, WB)	✓	Human Mouse
LAT1		✓	
LRP-1	Human (FC, WB)		
LRP-1 Cluster II	Human (WB)		
LRP-1 Cluster III	Human (ICC, WB)		
MCT1/SLC16A1		✓	Human
MCT8/SLC16A2			Human
MDR1/ABCB1			Human Mouse
MRP1	Human (FC, ICC, IP, WB)		Human
MRP4/ABCC4			Human
OATP1β1/OATP2		✓	Human
OCTN2/SLC22A5			Human
RAGE	Human (B/N, E, IHC, WB) Mouse (B/N, E, FC, IHC, WB) Rat (B/N, E, IHC, WB) Canine (E, WB)		



Vimentin in Mouse Cortical Stem Cells. Vimentin was detected in immersion-fixed mouse cortical stem cells using a Rat Anti-Human Vimentin Monoclonal Antibody (Catalog # MAB2105). The cells were stained using the NorthernLights™ (NL) 557-Conjugated Goat Anti-Rat IgG Secondary Antibody (Catalog # NL013; red) and counterstained with DAPI (blue). Specific staining was localized to cytoskeleton.



Detection of Glut1 Expression on hCMEC/D3 Cells by Flow Cytometry. The human cerebral microvascular endothelial cell line (hCMEC/D3), either permeabilized with Triton™ X-100 (black-lined, open histogram) or not permeabilized (gray-lined, open histogram), were stained using a Mouse Anti-Human Glut1 Monoclonal Antibody (Catalog # MAB1418) followed by a FITC-labeled secondary antibody. Control cells were not incubated with the Glut1 antibody (filled histogram). Image from Afonso, P.V. et al. (2008) PLoS One 4:e1000205.



RAGE in Alzheimer's Disease Brain. Receptor for Advanced Glycation End Products (RAGE) was detected in immersion-fixed paraffin-embedded sections of human Alzheimer's disease brain (cerebellum) using a Human RAGE Antigen Affinity-Purified Polyclonal Antibody (Catalog # AF1145). The tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (Catalog # CTS008; brown) and counterstained with hematoxylin (blue). Specific staining was localized to Purkinje cells in the cerebellum.

Adhesion Molecules

New Product

Cell Adhesion Molecules (CAMs)	Antibody Species (Application)
ALCAM/CD166	Human (B/N, E, FC, WB) Mouse (FC, ICC, IHC, WB) Rat (FC, ICC, IHC, WB)
CD31/PECAM-1	Human (FC, ICC, IP, WB) Mouse (FC, IHC, WB) Rat (FC) Porcine (FC, WB)
ICAM-1/CD54	Human (B/N, E, FC, ICC, IHC, IP, WB) Mouse (B/N, E, FC, IHC, WB) Rat (B/N, E, FC, IHC, WB)
ICAM-2/CD102	Human (B/N, FC, WB) Mouse (B/N, IHC, WB)
JAM-A	Human (FC, ICC, IHC, WB) Mouse (E, IHC, WB)
JAM-B/VE-JAM	Human (B/N, WB) Mouse (B/N, WB)
JAM-C	Human (B/N, FC, WB) Mouse (B/N, FC, ICC, IHC, WB)
MAdCAM-1	Human (FC) Mouse (B/N, E, IHC, WB)
MCAM/CD146	Human (FC, ICC, IHC, WB) Mouse (FC, ICC, WB) Rat (FC, WB)
Ninjurin-1	Human (FC, IHC, WB)
Thrombospondin-1	Human (E, IHC, IP, WB)
VCAM-1/CD106	Human (B/N, E, FC, ICC, IHC, IP, WB) Mouse (B/N, E, FC, IHC, WB)
Focal Adhesion Molecules	Antibody Species (Application)
Calreticulin	Human (FC, ICC, IHC, WB)
Caveolin-1	Human (ICC, IHC, WB) Mouse (ICC, WB) Rat (ICC, WB)
Cortactin	Human (IHC, WB) Rat (WB)
Crk	Human (WB) Mouse (WB)
FAK	Human (IHC, WB) Mouse (IHC, WB) Rat (IHC, WB)
LRP-1 Cluster II	Human (WB)
p130Cas	Human (WB) Mouse (WB) Rat (WB)
Paxillin	Human (ICC, WB) Mouse (ICC, WB) Rat (ICC, WB)
PKCα	Human (WB) Mouse (WB) Rat (WB)
PLC-γ1	Human (WB) Mouse (WB) Rat (WB)
PP2A	Human (ICC, IHC, WB) Mouse (ICC, WB) Rat (ICC, WB)
PYK2/FAK2	Human (IHC, WB)
SHP-2	Human (ICC, WB) Mouse (ICC, WB) Rat (WB)
Src	Human (IHC, WB) Mouse (IHC, WB) Rat (IHC, WB)
STAT3	Human (ChIP, FC, ICC, IP, WB) Mouse (ChIP, FC, ICC, IP, WB) Rat (ChIP, FC, ICC, IP, WB)

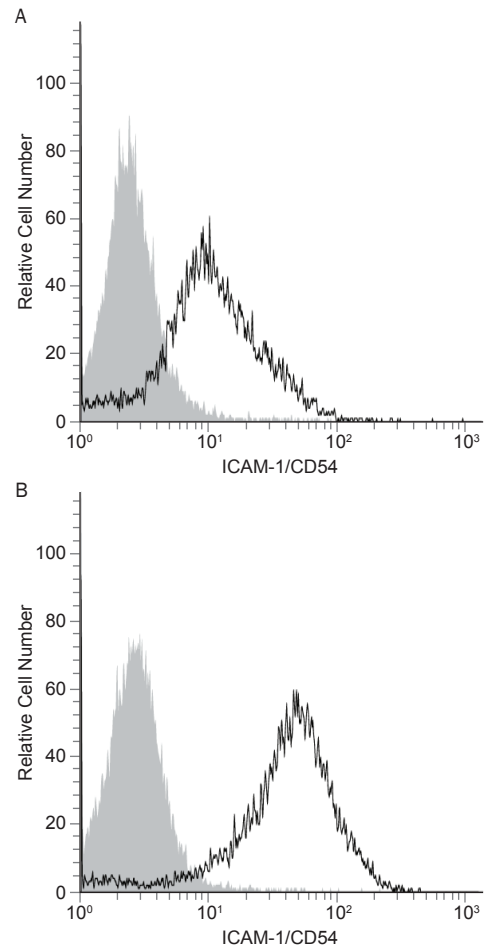
Vinculin	Human (ICC, IHC, WB) Mouse (ICC, IHC, WB) Rat (ICC, IHC, WB)
Zyxin	Human (ICC, WB)
Cadherin Superfamily	Antibody Species (Application)
E-Cadherin	Human (E, FC, ICC, IHC, WB) Mouse (E, FC, ICC, IHC, WB)
N-Cadherin	Human (FC, ICC, IHC, WB) Mouse (FC, ICC, IHC, WB) Rat (FC, ICC, IHC, WB)
VE-Cadherin	Human (FC, ICC, WB) Mouse (FC, WB)
Claudins	Antibody Species (Application)
Claudin-1	Human (FC)
Claudin-3	Human (FC, ICC, IHC)
Claudin-4	Human (FC)
Claudin-6	Human (FC)
Claudin-8	Human (FC)
Claudin-10b	Human (FC)
Claudin-11	Human (FC)
Claudin-12	Human (FC, ICC)
Claudin-17	Human (FC)
Claudin-19	Human (IHC)
Integrins & Associated Molecules	Antibody Species (Application)
CD47	Human (B/N, FC, IHC, WB) Mouse (FC, IHC, WB)
HGF	Human (B/N, E, IHC, WB) Mouse (E, IHC, WB) Canine (WB)
Integrin α1/CD49a	Human (FC, IHC, WB)
Integrin α3/CD49c	Human (FC, ICC) Mouse (FC, WB)
Integrin α4/CD49d	Human (B/N, FC, ICC) Mouse (FC, WB)
Integrin α5/CD49e	Human (B/N, FA, FC, ICC, WB) Mouse (FC, ICC, WB)
Integrin α6/CD49f	Human (B/N, FC, IHC, IP, WB) Mouse (B/N, FC, IHC) Bovine (B/N, FC, IHC)
Integrin αV/CD51	Human (B/N, FC, ICC, IHC, IP, WB)
Integrin αVβ3	Human (B/N, FC, IHC, IP)
Integrin αVβ5	Human (B/N, FC, ICC, IP)
Integrin β1/CD29	Human (B/N, FA, FC, ICC, IHC, IP, WB) Mouse (FC, ICC, IHC, WB)
Integrin β3/CD61	Human (B/N, FC, IHC, IP, WB)
Integrin β4/CD104	Human (FC, ICC, WB) Mouse (FC, IHC, WB)
Integrin β5	Human (B/N, FC, ICC, IP, WB) Mouse (FC, IHC, WB) Rat (FC, IHC, WB)
Integrin β8	Human (FC, ICC, WB)
Nidogen-1/Entactin	Human (E, ICC, IHC, WB)
Osteopontin/OPN	Human (B/N, E, FC, ICC, IHC, WB) Mouse (B/N, E, FC, IHC, WB)
Paxillin	Human (ICC, WB) Mouse (ICC, WB) Rat (ICC, WB)
RAGE	Human (B/N, E, IHC, WB) Mouse (B/N, E, FC, IHC, WB) Rat (B/N, E, IHC, WB) Canine (E, WB)

New Product

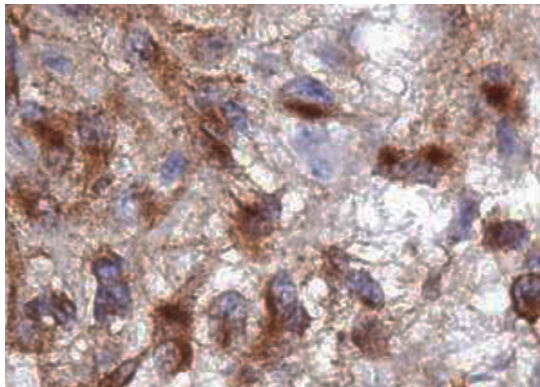
Additional Adhesion Molecules	Antibody Species (Application)
Afadin/AF-6	Human (ICC, IHC, WB)
β -Catenin	Human (ChIP, FC, ICC, IHC, WB) Mouse (ChIP, FC, IHC, WB) Rat (ChIP, FC, IHC, WB) <i>Xenopus</i> (WB)
CD9	Human (FC) Mouse (FC, IHC)
CD34	Human (FC, ICC, IHC) Mouse (FC, WB) Rat (FC, IHC, WB) Porcine (WB) Canine (FC, WB)
CD36/SR-B3	Human (FC, WB) Mouse (E, FC, IHC, WB)
CD44	Human (FC, ICC, IHC, IP, WB) Mouse (B/N, FC, ICC, WB) Rat (B/N, FC, ICC, WB) Canine (FC)
CD58/LFA-3	Human (B/N, FC, IHC, WB)
CD98	Human (FC)
CRTAM	Human (E, FC, WB)
Endosialin/CD248	Mouse (ICC)
Occludin	Human (ICC)
Podocalyxin	Human (FC, ICC, IHC, WB) Mouse (FC, ICC, IHC, WB)
VAP-1/AOC3	Human (FC, WB)
Vinculin	Human (ICC, IHC, WB) Mouse (ICC, IHC, WB) Rat (ICC, IHC, WB)

Applications Key

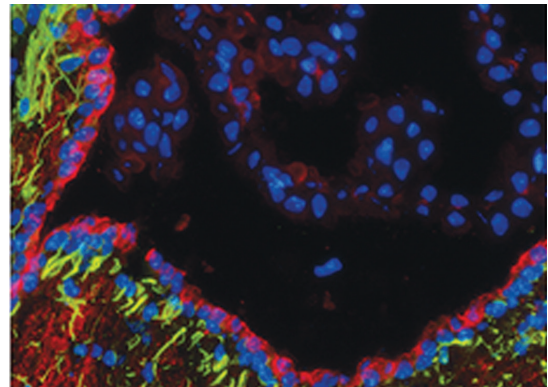
B/N Blocking/Neutralization ChIP Chromatin Immunoprecipitation E ELISA FA Functional Assay
FC Flow Cytometry ICC Immunocytochemistry IHC Immunohistochemistry IP Immunoprecipitation
WB Western blot



Detection of ICAM-1/CD54 Expression on HBMECs by Flow Cytometry. Human brain microvascular endothelial cells (HBMECs), untreated (A) or stimulated with $\text{TNF-}\alpha$ and $\text{IFN-}\gamma$ (B), were stained with a FITC-Conjugated Mouse Anti-Human ICAM-1/CD54 Monoclonal Antibody (Catalog # BBA20; open histograms) or a mouse IgG_1 isotype control (filled histograms).
Image from Haarmann, A. et al. (2010) PLoS One 5:e13568.



Podocalyxin in Human Astrocytoma Tissue. Podocalyxin was detected in tissue microarrays of human astrocytomas using a Mouse Anti-Human Podocalyxin Monoclonal Antibody (Catalog # MAB1658). The tissue was incubated with an HRP-conjugated goat anti-mouse IgG secondary antibody and the immune complexes visualized with DAB (brown). The tissue was counterstained (blue). Specific staining was localized to the cytoplasm and cell membrane.
Image from Binder, Z.A. et al. (2013) PLoS One 8:e75945.



JAM-C in Mouse Ventricle/Choroid Plexus. JAM-C was detected in perfusion-fixed O.C.T.-embedded sections of mouse brain (ventricle/choroid plexus) using a Goat Anti-Mouse JAM-C Antigen Affinity-Purified Polyclonal Antibody (Catalog # AF1213). The tissue was stained using a Cy3-conjugated donkey anti-goat IgG secondary antibody (red) and counterstained with DAPI (blue). The tissue was also co-stained for GFAP expression (green).
Image from Wyss, L. et al. (2012) PLoS One 7:e45619.

On the Cover

A. NF-H in Alzheimer's Disease Brain. Neurofilament (NF)-H was detected in immersion-fixed paraffin-embedded sections of human brain (cerebellum) using a Human NF-H Antigen Affinity-Purified Polyclonal Antibody (Catalog # AF3108). The tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (Catalog # CTS008; brown) and counterstained with hematoxylin (blue).

B. Orexin B, p38 α , and Integrin β 1 in Mouse Brainstem. Orexin B, p38 α , and Integrin β 1 were detected in perfusion-fixed frozen sections of mouse brainstem using a Mouse Anti-Human Orexin B Monoclonal Antibody (Catalog # MAB734), a Rabbit Anti-Human/Mouse/Rat p38 α Antigen Affinity-Purified Polyclonal Antibody (Catalog # AF8691), and a Goat Anti-Mouse Integrin β 1 Antigen Affinity-Purified Polyclonal Antibody (Catalog # AF2405). The tissue was stained for Orexin B using the NL557-Conjugated Donkey Anti-Mouse IgG Secondary Antibody (Catalog # NL007; red), for p38 α using the NL493-Conjugated Donkey Anti-Rabbit IgG Secondary Antibody (Catalog # NL006; green), and for Integrin β 1 using the NL637-Conjugated Donkey Anti-Goat IgG Secondary Antibody (Catalog # NL002; blue). The image of Integrin β 1 is pseudo-colored for presentation.



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