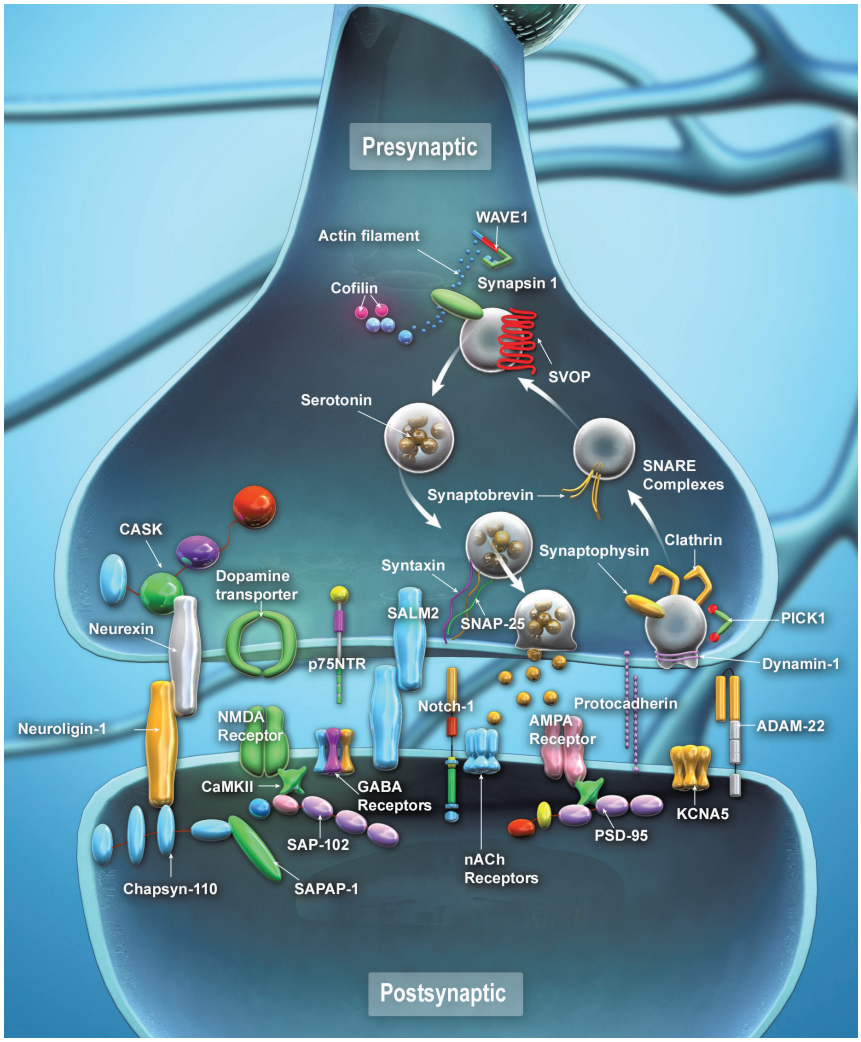
Synaptic Function

Antibodies

The functional unit of the nervous system is the neuron, which relays electrical and chemical signals to other neurons at junctions known as the neural synapse. The differentiated mammalian central nervous system is estimated to contain at least 100 billion neurons, which communicate with each other through multiple synaptic connections. Neurons are designed to transmit these signals through specialized cellular projections, axons and dendrites, that extend far from the cell body. The neural synapse most often occurs between the axon of one neuron and the dendrites of another and is composed of hundreds of proteins that function together to coordinate the exquisitely tuned signals that are the physical basis for higher nervous system functions, such as cognition, memory, or movement.

Many distinct types of neural synapses exist that relay some of the hundreds of known chemical signals, termed neurotransmitters, from one neuron to another, or form a direct contact and thus are categorized as electrical synapses. Synapses adapt over time and can weaken or strengthen in response to a number of factors, a phenomenon which is termed neural plasticity. Neurodegenerative diseases, such as Alzheimer's and Parkinson's, display a loss of synaptic function and a subsequent degradation of these structures. This degeneration occurs more prominently at particular locations in the central nervous system for particular neurodegenerative diseases, such as the substantia nigra for Parkinson's disease, which is highly enriched in synapses that transmit the neurotransmitter dopamine. Investigation into the mechanisms that lead to dysfunction and synaptic loss, with the support of BioLegend reagents, may provide new avenues for preventative or therapeutic intervention.



Find an extensive selection of research products at:
antibody.biolegend.com

Toll-Free Tel (US & Canada): 1.800.223.0796
Tel:1.781.915.5200
Email: ab.products@biolegend.com
antibody.biolegend.com

07-0097-00

Synaptic Function Antibodies

For the latest product updates and product information, visit: **antibody.biolegend.com**

Monoamine Neurotransmitter Biology

Specificity	Clone	Reactivity	Application(s)	Cat. No.
DOPA Decarboxylase	Polyclonal	Mammal	WB, DB	PRB-323P
Dopamine Transporter (C-terminal)	Polyclonal	Hu, Monkey	WB, DB, IHC	PRB-324P
Dopamine Transporter (Extracellular)	Polyclonal	Hu, Monkey	WB, DB, IHC	PRB-330P
pS40 Tyrosine Hydroxylase	Polyclonal	Rat	WB, IHC, ELISA, IP	PRB-502P
Serotonin	Polyclonal	Hu, Rat, Dog, Primate	IHC	SIG-3226
Tryptophan Hydroxylase	Polyclonal	Hu, Rat	WB, DB, IHC	PSH-327P
Tyrosine Hydroxylase	Polyclonal	Mammal	WB, IHC, ELISA	PRB-515P
Tyrosine Hydroxylase	2/40/15	Hu, Ms, Rat	WB, IHC	MMS-5210

Presynaptic Receptors

Specificity	Clone	Reactivity	Application(s)	Cat. No.
ADAM-22 (Cytoplasmic)	N46/30	Hu, Ms, Rat	WB, IHC	MMS-5124
ADAM-22 (Extracellular)	N57/2	Hu, Ms, Rat	WB	MMS-5125
IP3 Receptor Type 1	L24/18	Hu, Ms, Rat	WB, IHC	MMS-5151
KCC2	N1/12	Hu, Ms, Rat	WB, IHC	MMS-5241
KCNA5	2D10.D6	Hu, Rat	WB, IHC	MMS-5035
LRP4	N207/27	Ms, Rat	WB	MMS-5154
Notch1	mN1A	Hu, Ms	WB	MMS-5097
Notch1	N253/32	Ms, Rat	WB, IHC	MMS-5169
p75NTR	NGFR5	Hu	WB, IHC	MMS-5228
p75NTR	Polyclonal	Hu, Rodent	WB, IP, IF, IHC	PRB-602C
p75NTR	Polyclonal	Hu	WB, IHC	PRB-608P
Sodium Calcium Exchanger 1	6H2	Mammal	WB	MMS-318P

SNARE Complex and Vesicular Proteins

Specificity	Clone	Reactivity	Application(s)	Cat. No.
Clathrin Heavy Chain	TD.1	Hu, Cow	WB, IF	MMS-427P
Clathrin Light Chain	CON.1	Mammal, Yeast	WB, IP, IF	MMS-423P
Doc2b	N150/21	Hu, Ms, Rat	WB	MMS-5250
SNAP-25	SMI 81	Mammal	WB, IHC, ELISA, ICC	SMI-81R
SNAP-25	SP12	Hu, Ms, Rat, Pig, Cat	WB, IHC	MMS-614P
Stonin-2	N346/9	Hu, Ms, Rat	WB, ICC, IHC	MMS-5270
SVOP	N356/9	Ms, Rat	WB, IHC	MMS-5195
Synapsin I	Polyclonal	Mammal	WB, IP, ICC, ELISA	PRB-516P
Synaptobrevin	SP10	Mammal	WB, ICC, ELISA	MMS-616R
Synaptobrevin	SP11	Hu, Pig, Cat	WB, ICC, ELISA	MMS-636P
Synaptophysin	SP17	Hu, Rodent, Pig	WB, ICC, ELISA	MMS-618R
Synaptophysin	SY38	Hu, Ms, Dog	IHC	SIG-3260
Synaptophysin	Polyclonal	Hu	IHC	SIG-3261
Syntaxin	SP8	Hu, Rodent, Pig	IHC	MMS-619P
Synaptotagmin-12	N277/7	Ms, Rat	WB, IHC	MMS-5197
VGLUT1	N28/9	Hu, Ms, Rat	WB, IHC	MMS-5245
VGLUT2	N29/29	Ms, Rat	WB	MMS-5206

AMPA Receptors and Receptor Regulatory Proteins

Specificity	Clone	Reactivity	Application(s)	Cat. No.
GluR1	N355/1	Ms, Rat	WB, IHC	MMS-5143
GluR2	L21/32	Hu, Ms, Rat	WB, IHC, ICC	MMS-5144
pS831 GluR1	Polyclonal	Rat	WB, IHC, IP, ELISA	PRB-507P
pS845 GluR1	Polyclonal	Rat	WB, IHC, IP, ELISA	PRB-509P
SynDIG3	N160/21	Ms	WB, IHC	MMS-5203
TARP γ2	N245/1	Hu, Ms, Rat	ICC	MMS-5255

GABA Receptors

Specificity	Clone	Reactivity	Application(s)	Cat. No.
GABAARα1 (Cytoplasmic)	N95/35	Hu, Ms, Rat	WB	MMS-5132
GABAARα4 (Cytoplasmic)	Polyclonal	Rat	WB, IP	PRB-549P
GABAARα4 (N-terminal)	Polyclonal	Rat	WB, IP	PRB-548P
GABAARα6	Polyclonal	Hu, Ms, Rat	WB, DB	PRB-559C
GABAARβ2 (C-terminal)	Polyclonal	Cow, Hu, Ms, Rat	WB	PRB-596P
GABAARβ3	N87/25	Hu, Ms, Rat	WB, IHC	MMS-5134
GABABR1	N93A/49	Hu, Ms, Rat	WB, IHC	MMS-5136
GABABR2	N81/2	Hu, Ms, Rat	WB, IHC	MMS-5137
GABABR2	N81/37	Hu, Ms, Rat	WB	MMS-5138

Ckn = Chicken Hmr = Hamster Hu = Human Ms = Mouse

nACh Receptors

Specificity	Clone	Reactivity	Application(s)	Cat. No.
nAChRα1	61	Hu, Ms, Torpedo, Electrophorus	IF, IP	MRT-607R
nAChRα1/α3/α5	210	Ckn, Dog, Hu, Rodent	WB, IF, IP	MRT-609R
nAChRα4	299	Ckn, Hu, Rodent	IF, IP	MRT-613R
nAChRα7	319	Ckn, Hu, Rat	WB, IF, IP	MRT-629R
nAChRα7	306	Ckn, Hu, Rat	WB, IF, IHC, IP	MMS-627R
nAChRβ2	270	Ckn, Rodent	WB, IF, IP	MRT-639R
nAChRγ	66	Cow, Hu	WB, IF, IP	MRT-643R

NMDA Receptors

Specificity	Clone	Reactivity	Application(s)	Cat. No.
GluN1	N308/48	Rat	WB, IHC	MMS-5145
GluN2A	N327/95	Hu, Ms, Rat	WB	MMS-5146
GluN2A	N327A/38	Hu, Ms, Rat	WB	MMS-5147
GluN2B	N59/36	Hu, Ms, Rat	WB, IHC	MMS-5148
GluN2B	N59/20	Hu, Ms, Rat	WB	MMS-5149

Postsynaptic Density Proteins

Specificity	Clone	Reactivity	Application(s)	Cat. No.
Ankyrin-B	N105/13	Hu, Ms, Rat	WB, IHC	MMS-5246
Ankyrin-B	N105/17	Hu, Ms, Rat, Worm	WB, IHC	MMS-5247
Chapsyn-110	N18/28	Hu, Ms, Rat	WB, IHC	MMS-5129
Chapsyn-110	N18/30	Hu, Ms, Rat	WB, IHC	MMS-5244
Pan-MAGUK	K28/86	Hu, Ms, Rat	WB, IHC	MMS-5173
PSD-95	K28/43	Hu, Ms, Rat	WB, IHC, ICC	MMS-5182
PSD-95	K28/74	Hu, Ms, Rat	WB, IHC, ICC	MMS-5183
SAP102	N19/2	Hu, Ms, Rat	WB	MMS-5186
SAP97	K64/15	Hu, Ms, Rat	WB	MMS-5187
SAPAP1	N238/31	Hu, Ms, Rat	WB	MMS-5188
Pan-SAPAP	N127/31	Hu, Ms, Rat	WB	MMS-5176

Receptor Endocytosis Proteins

Specificity	Clone	Reactivity	Application(s)	Cat. No.
Dynamin-1	D5	Hu, Ms, Rat	WB, IHC	MMS-5122
PICK1	L20/8	Hu, Ms, Rat	WB	MMS-5179
Thorase	N125/10	Hu, Ms, Rat	WB, IHC	MMS-5155

Synaptic Cell Adhesion Molecules

Specificity	Clone	Reactivity	Application(s)	Cat. No.
AMIGO-1 (L86/33)	L86/33	Hu, Ms, Rat	IHC	MMS-5126
AMIGO-1 (L86/36)	L86/36	Hu, Ms, Rat	WB, ICC, IHC	MMS-5271
γ-Protocadherin A1	N159/5	Ms	WB	MMS-5172
γ-Protocadherin A3	N144/32	Ms	WB, IHC	MMS-5171
γ-Protocadherin B2	N148/30	Ms	WB	MMS-5140
L1 (CD171)	14.1	Hu	IHC	SIG-3911
L1 NCAM	74-5H7	Mammal, Ckn	WB, IP, IHC	MMS-172R
Neuroligin-1	N97A/31	Hu, Ms, Rat	WB, IHC	MMS-5165
NrCAM	N343/26	Hu, Ms, Rat	WB, ICC	MMS-5267
p120 Catenin	2B12	Hu, Ms, Rat, Hmr, Ckn	WB	MMS-5040
SALM2	N52B/27	Hu, Ms, Rat	WB, IHC	MMS-5184
SynCAM4	N244/5	Hu, Ms, Rat	WB	MMS-5257

Synaptic Enzymes

Specificity	Clone	Reactivity	Application(s)	Cat. No.
CaMKIV	3E5.E8	Hu, Ms, Rat	WB	MMS-5081
CASK	K56A/50	Hu, Ms, Rat	WB	MMS-5128
CnA1	2E2.D11	Hu, Ms, Rat	WB, IHC	MMS-5123
Pan-GRK	N145/20	Hu, Ms, Rat	WB	MMS-5249
pS3 Cofilin-1	3E8.A9	Hu, Ms	WB, IHC, ICC	MMS-5080
pT286 CaMKII	Polyclonal	Rat	WB, IP, IHC, ELISA	PRB-506P
RGS14	N133/21	Hu, Ms, Rat	WB, IHC	MMS-5248
RhoG	1F3 B3 E5	Hu, Ms, Rat	WB, IHC	MMS-5032
WAVE1	K91/36	Hu, Ms, Rat	WB, IHC	MMS-5208

DB = Dot Blot ICC = Immunocytochemistry IF = Immunofluorescence

IHC = Immunohistochemistry IP = Immunoprecipitation

WB = Western Blot/Immunoblot

Toll-Free Tel (US & Canada): 1.800.223.0796
Tel:1.781.915.5200
Email: ab.products@biolegend.com
antibody.biolegend.com

07-0097-00