

Neurologin 1/2/3/4

Cat.No. 129 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. For reconstitution add 100 µl H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 (AP staining) IP: yes ICC: not recommended IHC: not recommended IHC-P/FFPE: not tested yet ELISA: yes
Clone	4F9
Subtype	IgG2a (κ light chain)
Immunogen	Recombinant protein corresponding to AA 1 to 695 from rat Neurologin1 (UniProt Id: Q62765)
Epitop	Epitop: AA 1 to 695 from rat Neurologin1 (UniProt Id: Q62765)
Reactivity	Reacts with: rat (Q62765, Q62888, Q62889,), mouse (Q99K10, Q69ZK9, Q8BYM5, B0F2B4). Other species not tested yet.
Specificity	Recognizes rat and mouse neurologins 1-3 and mouse neurologin 4. (K.O. verified)

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Neurologins form a family of postsynaptic cell surface molecules that interact with β-neurexins. They are 110-120 kDa polypeptides with homology to acetylcholine esterase. Neurologin 1 and neurologin 3 are specifically localized to post-synaptic densities of excitatory synapses whereas neurologin 2 is found exclusively on inhibitory synapses. Mutations in neurologin 3 and neurologin 4 have been implicated with a rare, heritable form of autism.

Selected References SYSY Antibodies

The synaptic proteins neurexins and neuroligins are widely expressed in the vascular system and contribute to its functions. Bottos A, Destro E, Rissone A, Graziano S, Cordara G, Assenzio B, Cera MR, Mascia L, Bussolino F, Arese M Proceedings of the National Academy of Sciences of the United States of America (2009) 106(49): 20782-7. **IHC, WB, IP; tested species: chicken**

Synapsin-dependent reserve pool of synaptic vesicles supports replenishment of the readily releasable pool under intense synaptic transmission.

Vasileva M, Horstmann H, Geumann C, Gitler D, Kuner T
The European journal of neuroscience (2012) 36(8): 3005-20. **ELISA**

Truncated tau deregulates synaptic markers in rat model for human tauopathy.
Jadhav S, Katina S, Kovac A, Kazmerova Z, Novak M, Zilka N
Frontiers in cellular neuroscience (2015) 9: 24. **WB**

The association of GPR85 with PSD-95-neurologin complex and autism spectrum disorder: a molecular analysis.
Fujita-Jimbo E, Tanabe Y, Yu Z, Kojima K, Mori M, Li H, Iwamoto S, Yamagata T, Momoi MY, Momoi T
Molecular autism (2015) 6: 17. **WB**

Neurologin 1 is dynamically exchanged at postsynaptic sites.

Schapitz IU, Behrend B, Pechmann Y, Lappe-Siefke C, Kneussel SJ, Wallace KE, Stempel AV, Buck F, Grant SG, Schweizer M, Schmitz D, et al.

The Journal of neuroscience : the official journal of the Society for Neuroscience (2010) 30(38): 12733-44. **WB; tested species: rat**

Postsynaptic neurologin enhances presynaptic inputs at neuronal nicotinic synapses.

Conroy WG, Nai Q, Ross B, Naughton G, Berg DK
Developmental biology (2007) 307(1): 79-91. **WB**

A mutation linked with autism reveals a common mechanism of endoplasmic reticulum retention for the alpha,beta-hydrolase fold protein family.

De Jacobo A, Comoletti D, Kovarik Z, Gaietta G, Radic Z, Lockridge O, Ellisman MH, Taylor P
The Journal of biological chemistry (2006) 281(14): 9667-76. **WB**

Control of excitatory and inhibitory synapse formation by neurologins.

Chih B, Engelman H, Scheiffele P
Science (New York, N.Y.) (2005) 307(5713): 1324-8. **WB**

Selected General References

Neurologin 1 is a postsynaptic cell-adhesion molecule of excitatory synapses.

Song JY, Ichtchenko K, Südhof TC, Brose N
Proceedings of the National Academy of Sciences of the United States of America (1999) 96(3): 1100-5.

Activity-dependent validation of excitatory versus inhibitory synapses by neurologin-1 versus neurologin-2.
Chubykin AA, Atasoy D, Etherton MR, Brose N, Kavalali ET, Gibson JR, Südhof TC
Neuron (2007) 54(6): 919-31.

Dissection of synapse induction by neurologins: effect of a neurologin mutation associated with autism.
Chubykin AA, Liu X, Comoletti D, Tsigelny I, Taylor P, Südhof TC
The Journal of biological chemistry (2005) 280(23): 22365-74.

Neurologin 2 is exclusively localized to inhibitory synapses.

Varoqueaux F, Jamain S, Brose N
European journal of cell biology (2004) 83(9): 449-56.

Synaptic targeting of neurologin is independent of neurexin and SAP90/PSD95 binding.

Dresbach T, Neeb A, Meyer G, Gundelfinger ED, Brose N
Molecular and cellular neurosciences (2004) 27(3): 227-35.

The making of neurexins.

Missler M, Fernandez-Chacon R, Südhof TC
Journal of neurochemistry (1998) 71(4): 1339-47.

Structures, alternative splicing, and neurexin binding of multiple neurologins.

Ichtchenko K, Nguyen T, Südhof TC
The Journal of biological chemistry (1996) 271(5): 2676-82.

Neurologin 1: a splice site-specific ligand for beta-neurexins.

Ichtchenko K, Hata Y, Nguyen T, Ullrich B, Missler M, Moomaw C, Südhof TC
Cell (1995) 81(3): 435-43.