

Neurologin 1

Cat.No. 129 111; 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: not tested yet ICC: not recommended IHC: not recommended IHC-P/FFPE: not tested yet
Clone	4C12
Subtype	IgG1 (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), mouse (Q99K10). Other species not tested yet.
Specificity	Epitope present in all 4 isoforms of neurologin 1; no cross reactivity to neurologins 2, 3, 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

Dissection of synapse induction by neuroligins: effect of a neuroligin 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. **WB, ICC**

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, IP; tested species: rat**

Glia-to-neuron transfer of miRNAs via extracellular vesicles: a new mechanism underlying inflammation-induced synaptic alterations. Prada I, Gabrielli M, Turola E, Iorio A, D'Arrigo G, Parolisi R, De Luca M, Pacifici M, Bastoni M, Lombardi M, Legname G, et al.
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Isoform-specific cleavage of neurologin-3 reduces synapse strength. Bembem MA, Nguyen TA, Li Y, Wang T, Nicoll RA, Roche KW
Molecular psychiatry (2018) : **WB; tested species: rat**

UPR activation specifically modulates glutamate neurotransmission in the cerebellum of a mouse model of autism. Trobiani L, Favaloro FL, Di Castro MA, Di Mattia M, Cariello M, Miranda E, Canterini S, De Stefano ME, Comoletti D, Limatola C, De Jacobo A, et al.
Neurobiology of disease (2018) : **WB; tested species: mouse**

Neurologin 1, 2, and 3 Regulation at the Synapse: FMRP-Dependent Translation and Activity-Induced Proteolytic Cleavage. Chmielewska JJ, Kuzniewska B, Milek J, Urbanska K, Dziembowska M
Molecular neurobiology (2018) : **WB; tested species: mouse**

Molecular Dissection of Neurologin 2 and Slitrk3 Reveals an Essential Framework for GABAergic Synapse Development. Li J, Han W, Pelkey KA, Duan J, Mao X, Wang YX, Craig MT, Dong L, Petralia RS, McBain CJ, Lu W, et al.
Neuron (2017) 96(4): 808-826.e8. **WB; tested species: mouse**

Unique versus Redundant Functions of Neurologin Genes in Shaping Excitatory and Inhibitory Synapse Properties. Chanda S, Hale WD, Zhang B, Wernig M, Südhof TC
The Journal of neuroscience : the official journal of the Society for Neuroscience (2017) 37(29): 6816-6836. **WB; tested species: mouse**

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Proceedings of the National Academy of Sciences of the United States of America (2017) 114(7): E1253-E1262. **WB**

Soluble Ectodomain of Neurologin 1 Decreases Synaptic Activity by Activating Metabotropic Glutamate Receptor 2. Gjølund MD, Carlsen EMM, König AB, Dmytrieva O, Petersen AV, Jacobsen J, Berezin V, Perrier JF, Owczarek S
Frontiers in molecular neuroscience (2017) 10: 116. **WB; tested species: mouse**

α-Synuclein assembles into higher-order multimers upon membrane binding to promote SNARE complex formation. Burré J, Sharma M, Südhof TC
Proceedings of the National Academy of Sciences of the United States of America (2014) 111(40): E4274-83. **WB**

CaMKII phosphorylation of neurologin-1 regulates excitatory synapses. Bembem MA, Shipman SL, Hirai T, Herring BE, Li Y, Badger JD, Nicoll RA, Diamond JS, Roche KW
Nature neuroscience (2014) 17(1): 56-64. **WB; tested species: rat**

Proteomic screening of glutamatergic mouse brain synaptosomes isolated by fluorescence activated sorting. Biesemann C, Grønberg M, Luquet E, Wichert SP, Bernard V, Bungers SR, Cooper B, Varoqueaux F, Li L, Byrne JA, Urlaub H, et al.
The EMBO journal (2014) 33(2): 157-70. **WB; tested species: mouse**

Membrane-tethered monomeric neurexin LNS-domain triggers synapse formation. Gokce O, Südhof TC
The Journal of neuroscience : the official journal of the Society for Neuroscience (2013) 33(36): 14617-28. **WB; tested species: mouse**

Neurologin1 drives synaptic and behavioral maturation through intracellular interactions. Hoy JL, Haeger PA, Constable JR, Arias RJ, McCallum R, Kywerga M, Davis L, Schnell E, Wehr M, Castillo PE, Washbourne P, et al.
The Journal of neuroscience : the official journal of the Society for Neuroscience (2013) 33(22): 9364-84. **WB; tested species: mouse**

Comprehensive expression analyses of neural cell-type-specific miRNAs identify new determinants of the specification and maintenance of neuronal phenotypes. Jovićić A, Roshan R, Moiso N, Pradervand S, Moser R, Pillai B, Luthi-Carter R
The Journal of neuroscience : the official journal of the Society for Neuroscience (2013) 33(12): 5127-37. **WB; tested species: rat**