

Mouse monoclonal antibody to human p75NTR [MLR2]: IgG2a

Catalogue No.:	M-009-100
Description:	THIS PRODUCT HAS BEEN SUPERCEDED. PLEASE REFER TO THE "REPLACED BY" FIELD BELOW TO LOCATE THE CURRENT BIOSENSIS PRODUCT TO MEET YOUR RESEARCH NEEDS. p75NTR was originally discovered as a low affinity nerve growth factor receptor. Later it was found that it was the receptor for all neurotrophins. It mediates signals of neurotrophins for neuronal survival, apoptosis, neurite outgrowth and synaptic plasticity. Recently, it has been revealed that p75NTR not only acts as the receptor for neurotrophins but also the receptor for many other pathological ligands such as prions, rabies virus and amyloid beta. p75NTR also acts as a co-receptor for NOGO which mediates inhibitory signals of myelin associated protein. p75NTR is highly expressed in a number of non-neuronal and neuronal cells including motor neurons during development and also in damaged neurons. FUNCTION: Low affinity receptor which can bind to NGF, BDNF, NT-3, and NT-4. Can mediate cell survival as well as cell death of neural cells. SUBUNIT: Homodimer; disulfide-linked. Interacts with p75NTR-associated cell death executor. Interacts with NGFRAP1/BEX3.
Replaced by:	M-1818-100, Mouse monoclonal antibody to human NGFR/p75NTR [8J2]: IgG
Batch No.:	See product label
Unit size:	100 µg
Antigen:	This antibody was raised against chimeric recombinant human p75 protein coupled to an Fc region of human immunoglobulin.
Antigen Location:	Extracellular domain of human p75NTR
Antibody Type:	mouse monoclonal
Isotype:	IgG2a
Clone:	MLR2
Other Names:	Low-affinity nerve growth factor receptor; NGF receptor; Gp80-LNGFR; p75 ICD; Low affinity neurotrophin receptor p75NTR
Accession:	P08138 TNR16_HUMAN;
Produced in:	Mouse
Purity:	Protein G purified immunoglobulin
Applications:	IH (fresh, acetone fixed sections only, epitope is fixation sensitive), Not suitable in paraffin embedded tissues. Western Blot (non-denaturing conditions only) and Immunopanning. A concentration of 1-5 µg/ml is recommended for immunohistochemistry, immunopanning and WB. This antibody is not recommended for denaturing WB applications . A concentration of 20 µg/ml is recommended for immunofluorescence and FACS. Biosensis recommends optimal dilutions/concentrations should be determined by the end user.
Specificity:	Specificity has been confirmed using a number of techniques as described in the reference by Rogers et al (2006). The antibody recognizes extracellular p75 in native configurations.
Species Against:	antibody recognizes p75 EC from mouse, rat and human, other species not yet tested.
Antibody Against:	original immunogen was human p75 extracellular domain.

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- Cross-reactivity:** This antibody is known to react with human, mouse, rat and guinea-pig p75NTR protein.
- Form:** Lyophilised from PBS pH 7.4
- Reconstitution:** Reconstitute in 100 µl of sterile water. Centrifuge to remove any insoluble material.
- Storage:** After reconstitution keep aliquots at -20°C for a higher stability, and at 4°C with an appropriate antibacterial agent. Glycerol (1:1) may be added for an additional stability. Avoid repetitive freeze/thaw cycles.
- Expiry Date:** 12 months after purchase
- Specific References:** Svadasan R (2016) "The role of RNA binding proteins in motoneuron diseases" PhD Thesis. Application: Immunopanning. Species: Mouse.

Yadav P et al. (2016) "Neurofilament depletion improves microtubule dynamics via modulation of Stat3/stathmin signaling" *Acta Neuropathol.* Jul;132(1):93-110. Application: Immunopanning. Species: Mouse.

Klausmeyer A et al. (2015) "Isolation and culture of spinal cord motor neurons" *Curr Protoc Cell Biol.* Mar;66:1.9.1-1.9.10. Application: Immunopanning. Species: Mouse.

Smith KA et al. (2015) "Characterization and changes in neurotrophin receptor p75-Expressing motor neurons in SOD1(G93A) G1H mice." *J Comp Neurol.* 523(11):1664-82. Application: In vivo trafficking. Species: Mouse.

Shepherd SR et al. (2014) "The extracellular domain of neurotrophin receptor p75 as a candidate biomarker for amyotrophic lateral sclerosis." *PLoS One.* 9(1):e87398. Application: IP. Species: Human, mouse.

Wiszniak S et al. (2013) "The ubiquitin ligase Nedd4 regulates cranofacial development by promoting cranial neural crest cell survival and stem-cell like properties." *Dev Biol.* 383(2):186-200. Application: IHC. Species: Mouse.

Panni P et al. (2013) "Phagocytosis of bacteria by olfactory ensheathing cells and Schwann cells" *Neurosci Lett.* Feb 13. pii: S0304-3940(13)00109-2. Application: Immunopanning. Species: Mouse.

Zhang C et al. (2012) "Suppression of p75 neurotrophin receptor surface expression with intrabodies influences Bcl-xL mRNA expression and neurite outgrowth in PC12 cells." *PLoS One.* 7(1):e30684. Application: IF, ELISA, Flow Cytometry. Species: Rat.

Selvaraj BT et al. (2012) "Local axonal function of STAT3 rescues axon degeneration in the pmn model of motoneuron disease." *J Cell Biol.* 199(3):437-51. Application: Immunopanning. Species: Mouse.

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Chacón PJ et al. (2010) "NGF-activated protein tyrosine phosphatase 1B mediates the phosphorylation and degradation of I-kappa-Balpa coupled to NF-kappa-B activation, thereby controlling dendrite morphology." *Mol Cell Neurosci.* 43(4):384-93. Application: IF. Species: Mouse.

Rogers ML et al. (2010) "ProNGF mediates death of Natural Killer cells through activation of the p75NTR-sortilin complex." *J Neuroimmunol.* 226(1-2):93-103. Application: IF, Flow Cytometry. Species: Human.

Wiese S et al. (2010) "Isolation and enrichment of embryonic mouse motoneurons from the lumbar spinal cord of individual mouse embryos." *Nat Protoc.* 5(1):31-8. Application: Immunopanning. Species: Mouse.

Gorrie Ca et al. (2010) "Effects of human OEC-derived cell transplants in rodent spinal cord contusion injury." *Brain Res.* 1337:8-20. Application: IF. Species: Human.

Deng C et al. (2006) "Survival and migration of human and rat olfactory ensheathing cells in intact and injured spinal cord." *J Neurosci Res.* 83(7):1201-12. Application: IHC. Species: Rat, human.

References:

Matusica D et al. (2008) Characterisation and use of the NSC-34 cell liner for study of neurotrophin receptor trafficking. *J. Neurosci. Res.* 86(3) pp. 553-65.

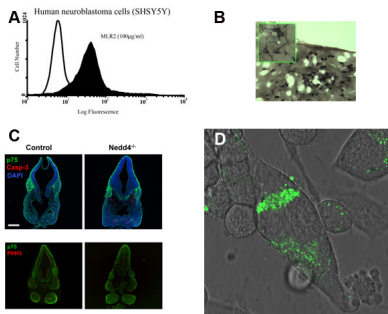
Huh CY et al. (2008) Chronic exposure to nerve growth factor increases acetylcholine and glutamate release from cholinergic neurons of the rat medial septum and diagonal band of Boca via mechanisms mediated by p75NTR. *J. Neurosci.* 28(6) pp. 1404-9.

Lagares A et al. (2007) Primary sensory neuron addition in the adult rat trigeminal ganglion: evidence for neural crest glio-neuronal precursor maturation. *J. Neurosci.* 27(30) pp. 7939-53.

Rogers ML et al. (2006). Functional monoclonal antibodies to p75 neurotrophin receptor raised in knockout mice. *Neurosci Methods.* 158(1) pp. 109-120

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A: Flow cytometry analysis of endogenously expressed p75NTR on ShSY5Y cells. X-63 conjugated control IgG represents negative control for all experiments. B: Immunohistochemical staining of p75NTR in Balb/C mouse brain (septum) using mouse monoclonal antibody to human p75NTR [MLR2], catalogue number M-009-100. 4% paraformaldehyde fixed mouse brain free floating sections were incubated with mouse monoclonal antibody to human p75NTR [MLR2] (1µg/ml) overnight, followed by incubation with biotinylated Goat anti-mouse IgG conjugate at a dilution of 1: 500 and Vector ABC, DAB stained. C: Staining of transverse sections of E9.5 mouse embryos fixed in 4% paraformaldehyde in PBS and immunolabelled with anti-p75 antibody MLR2 (M-009-100, 1:200, green), anti-cleaved-caspase-3 (red, upper panel) and anti-phospho Histone H3 antibodies (PHH3, red, lower panel). Primary antibodies were incubated at 4°C overnight. Scale bar = 200 µm. Courtesy of Dr S. Wiszniak, SA Pathology. D: Immunofluorescent detection of p75NTR in cultured mouse NSC34 cells.

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