

Mouse monoclonal antibody to human p75NTR [MLR2] - FITC

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| Catalogue No.: | M-018-100-FT |
| Description: | THIS PRODUCT HAS BEEN SUPERCEDED.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. Interacts with TRAF2, TRAF4, TRAF6, PTPN13 and RANBP9. Interacts through TRAF6 with SQSTM1 which bridges NGFR to NTRK1. |
| Replaced by: | M-1819-50, Mouse monoclonal antibody to human NGFR/p75NTR [8J2] - FITC |
| Related products: | M-1763-100-FT, Non-specific Control IgG, clone X63 (Monoclonal) - FITC |
| Batch No.: | See product label |
| Unit size: | 100 µg |
| Antigen: | Human recombinant p75 |
| Isotype: | IgG2a |
| Clone: | MLR2 |
| Other Names: | Low-affinity nerve growth factor receptor; NGF receptor; Gp80-LNGFR; p75 ICD; Low affinity neurotrophin receptor p75NTR; Tumor necrosis factor receptor superfamily member 16; CD271; NGFR; TNFRSF16; |
| Accession: | P08138 TNR16_HUMAN; |
| Produced in: | Mouse |
| Purity: | Immunoglobulin (IgG2A) was purified using Protein G column (Amersham Pharmacia), polished with Sephacryl 200HR (Amersham Pharmacia) in PBS. The antibody was then conjugated to Fluorescein isomer 1 (FITC, Sigma). A minimum fluorescein: protein ratio of 3:1 is guaranteed. The conjugate was purified via gel filtration using a G25 fine grain gel in 10 mMTris/50mM NaCl solution. |
| Applications: | Immunofluorescence, flow cytometry. Suggested working dilutions: For immunofluorescence a concentration of 1-5 µg/ml is recommended. LIGHT fixation is a must, or unfixed works best. Epitope is sensitive to fixation. This antibody is not recommended for denaturing WB applications. For FACS a concentration of 20 µg/ml is recommended. This antibody does not block Neurotrophin binding. Biosensis recommends optimal dilutions/concentrations should be determined by the end user. |

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- Specificity:** Specificity was demonstrated by immunohistochemistry and FACS analysis. Immunohistochemical staining of motor neurons in spinal cord following lesion of sciatic nerve and in cholinergic neurons of the basal forebrain corresponding to published literature.
- Cross-reactivity:** Reacts with human, mouse and rat. Other species have not yet been tested but it is expected that this antibody will be useful for the study of p75 in primates and other species.
- Form:** Liquid. Buffer is 10 mM disodium phosphate, 1.75 mM monopotassium phosphate, 2.7 mM potassium chloride, 135 mM sodium chloride (PBS), pH 7.4. Contains no preservatives.
- Storage:** The antibody conjugate can be stored at 4°C for up to 4 months with the addition of appropriate antibacterial agent.
- Expiry Date:** Four months after purchase
- Specific References:** Han YC et al. (2016) Direct Reprogramming of Mouse Fibroblasts to Neural Stem Cells by Small Molecules. *Stem Cells Int.* 2016;2016:4304916.

Han YC & Zhou XF. (2015) Method of producing multipotent stem cells. US 20150322405 A1 (patent).

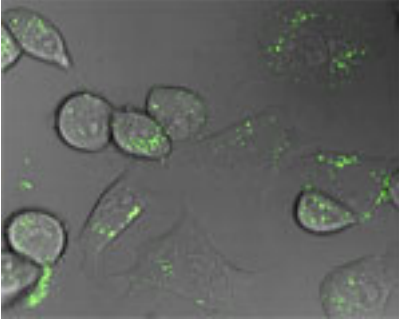
Chacón PJ, Arévalo MA, Tébar AR. (2010) NGF-activated protein tyrosine phosphatase 1B mediates the phosphorylation and degradation of I-kappa-Balpha coupled to NF-kappa-B activation, thereby controlling dendrite morphology. *Mol Cell Neurosci.* 2010 Apr;43(4):384-93.

Wiese S, Herrmann T, Drepper C, Jablonka S, Funk N, Klausmeyer A, Rogers ML, Rush RA & Sendtner M (2009) Isolation and enrichment of embryonic mouse motoneurons from the lumbar spinal cord of individual mouse embryos. *Nat Protoc.* 2010;5(1):31-8.

- References:**
1. Rogers ML, Atmosukarto I, Berhanu DA, Matusica D, Macardle P, Rush RA (2006). Functional monoclonal antibodies to p75 neurotrophin receptor raised in knockout mice. *Neurosci Methods.* 158(1) pp. 109-120
 2. Matusica D, Fenech MP, Rogers ML, Rush RA. (2008) Characterisation and use of the NSC-34 cell liner for study of neurotrophin receptor trafficking. *J. Neurosci. Res.* 86(3) pp. 553-65.
 3. Huh CY, Danik M, Manseau F, Trudeau LE, Williams S. (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.
 4. Lagares A, Li HY, Zhou XF, Avendano C. (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.

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Live confocal imaging of intracellular trafficking of p75NTR using FITC labelled mouse monoclonal antibody to human p75NTR [MLR2], catalogue number M-018-100-FT in NSC34 mouse motor neuron cell line.

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