Mouse monoclonal antibody to human NGFR/p75NTR [8J2]: IgG

51 West Thebarton Road • Thebarton • South Australia 5031
Telephone + 61(0)8 8352 7711 • Email sales@biosensis.com • www.biosensis.com

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Catalogue No.:	M-1818-100
Description:	p75NTR (CD271) was originally discovered as a low affinity nerve growth factor receptor (NGFR). Later it was found that it was the receptor for all neurotrophins, including NGF, BDNF, NT3 and NT4/5. 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. Recent research proposes the extracellular domain of p75NTR as a biomarker for monitoring the progression of motor neuron disease (MND), also known as Amyotrophic Lateral Sclerosis (ALS) or Lou Gehrig's Disease. SUBUNIT: Homodimer; disulfide-linked. Interacts with p75NTR-associated cell death executor. Interacts with NGFRAP1/BEX3.
Related products:	M-1819-50-FT, Mouse monoclonal antibody to human NGFR/p75NTR [8J2] - FITC M-1821-50-AT, Mouse monoclonal antibody to human NGFR/p75NTR [8J2] - ATTO 488
Batch No.:	See product label.
Unit size:	100 ug
Antigen:	Recombinant extracellular domain (amino acids 29-250) of human NGFR/p75NTR protein with N-terminal His-tag.
Antigen Location:	Extracellular domain (ECD) of human NGFR/p75NTR
Antibody Type:	Mouse monoclonal
Isotype:	IgG2a
Clone:	8J2
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 A purified IgG
Applications:	Flow Cytometry: 5-20 ug/mL.Western Blotting: 0.5-2.0 ug/mL, non-reducing conditions only (no DTT or beta-mercaptoethanol).Immunoprecipitation: lysate dependent. 10 ug per 200-500 ug total protein.Immunopanning: 1-5 ug/mL.Immunocytochemistry: 1-5 ug/mL. Staining is strongest in non-fixed cells, light fixation is tolerable.Immunohistochemistry: fresh, acetone fixed sections only, epitope is fixation sensitive. Not suitable in formalin-fixed, paraffin (FFPE) embedded tissues.Biosensis recommends optimal dilutions/concentrations should be determined by the end user.
Specificity:	This antibody is specific for NGFR/p75NTR as demonstrated by western blotting and

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immunprecipitation. The antibody recognizes extracellular p75NTR under non-reducing conditions.

Species Against: Antibody recognizes NGFR/p75NTR from human, mouse and rat. Other species not tested as yet.

Cross-reactivity: This antibody reacts with human, mouse and rat. Cross-reactivity with other species not tested but expected.

Form: Lyophilised from a solution containing PBS buffer pH 7.2-7.6 with 3% trehalose, without preservatives.

Reconstitution: Spin vial briefly before opening. Reconstitute in 100 uL sterile water. Centrifuge to remove any insoluble material. Final buffer contains no preservatives.

Storage: Store lyophilised antibody at 2-8C. After reconstitution divide into aliquots and store at -20C for long-term storage. Store at 2-8C short-term (up to 4 weeks) with an appropriate antibacterial agent. Avoid repetitive freeze/thaw cycles.

Expiry Date: 12 months after purchase if unopened.

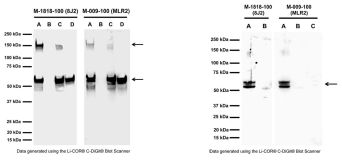
General References:

Matusica D et al. (2008). Characterisation and use of the NSC-34 cell liner for study of nerurotrophin 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 bu 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.

DiStefano & Johnson (1988). Identification of a truncated form of the nerve growth factor receptor.
Proc Natl Acad Sci U S A. 1988 Jan;85(1):270-4.



Left: Analysis of p75NTR expression in human and rodent RIPA cell lysates by Western Blotting. Mouse antibody to p75NTR clone 8J2 (M-1818-100) and clone MLR2 (M-009-100) detect p75NTR-IR at ~50-60 kDa in mouse p75NTR-transfected cells (A), but not in non-transfected control cells (B). p75NTR-IR is also observed in human SH-SY5Y (C) and rat C6 (D) cell lysates. Dependent on cell lysate, dimers or trimers (~150 kDa) of p75NTR are detected (Anastasia et al., 2015). 50 ug of protein were loaded per lane. WB Method: SDS-PAGE: 4-12%, non-reducing conditions; Transfer: Tris-Glycine buffer; Membrane: nitrocellulose (0.45 um); Blocking: 5% skim milk in TBST, 1 hour at RT; Primary antibody: 1 ug/mL, overnight at 4°C; Secondary antibody: anti-mouse-HRP (1/6000) 1 hour at RT; Detection: Chemiluminiscence. Right: Immunoprecipitation of p75NTR from rat C6 cell lysate and detection by Western Blotting. Mouse

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antibody to p75NTR clone 8J2 (M-1818-100) and clone MLR2 (M-009-100) precipitate bands at the expected molecular weight of ~50-60 kDa for p75NTR (A). No p75NTR-IR is observed in remaining supernatant (B) or control (Protein G only, C). IP Method: C6 lysates were prepared in non-denaturing lysis buffer and pre-cleared with Protein G agarose beads (40 uL bead slurry per 1 mg total protein). Cleared lysate was then incubated with either M-1818-100 or M-009-100 (10 ug antibody per 200 ug total protein), and immune complexes bound by Protein G agarose (10 uL). Precipitated p75NTR was eluted off the beads and antibody by heating and addition of SDS-PAGE sample buffer. WB Method: as above, with primary goat anti-p75NTR (1 ug/mL) antibody and secondary anti-sheep-HRP (1/6000) antibody. Detection: Chemiluminiscence.