



## NGFR/p75ECD Rapid ELISA Kit: Human (2 Plates)

**Catalogue No.:** BEK-2219-2P

**Description:** The Biosensis NGFR/p75ECD Rapid™ enzyme-linked immunosorbent assay (ELISA) Kit is a sandwich ELISA that allows the quantification of the extracellular domain (ECD) of human p75 neurotrophin receptor in less than 4 hours in urine only if used as directed. Additional substrates including serum, citrate-plasma and CSF have not yet been completely evaluated at this time. Please refer to the kit protocol for specific use instructions for each substrate application, in particular Section 1, Section 6 and Section 13, to assess whether this kit is suitable for the intended research application.

Note that capture and detection antibodies have been optimized for increased assay sensitivity, and reagents from previous lots should not be used. This optimized human p75ECD ELISA assay demonstrates an increased sensitivity, lowering the LOD about 8-fold to the previous assay version. It represents the most sensitive NGFR/p75ECD ELISA assay available today, with a detection limit of at least 6 pg/mL, and a quantification range of 7.8 - 500 pg/mL.

This ELISA kit consists of a pre-coated mouse monoclonal anti-p75ECD capture antibody, a biotinylated mouse monoclonal anti-p75ECD detection antibody and horseradish peroxidase (HRP)-conjugated streptavidin. The addition of a substrate (3,3',5,5'-tetramethylbenzidine, TMB) yields a colored reaction product which is directly proportional to the concentration of p75ECD present in samples and protein standards. A human p75ECD positive control (QC sample) is provided to assure consistent assay performance.

This NGFR/p75ECD ELISA kit employs an in-house recombinant human p75ECD-Fc chimera as standard that has been validated against an externally available p75ECD-Fc protein. While there is a current lack of a commercially available, true human p75ECD standard, this ELISA kit allows quantification of human p75ECD as p75ECD-Fc human equivalents. Please note that the antibodies used in this ELISA do not cross-react with mouse p75ECD.

Note: For research use only. Not for diagnostic and clinical purposes.

**Related products:** BEK-2220-2P, Mouse NGFR/p75ECD Rapid™ ELISABL-002-1250, Heterophilic antibody blocker for ELISA assays utilizing mouse antibodies

**Batch No.:** Refer to the product label.

**Antigen:** The nerve growth factor (NGF) receptor (NGFR), also known as p75 neurotrophin receptor (p75NTR; TNFRSF16; CD271) is a common receptor for the neurotrophins NGF, BDNF, NT-3 and NT-4/5. In neurons, p75NTR mediates a variety of physiological functions including survival, apoptosis, neurite outgrowth and synaptic plasticity.

A potential pathological role for p75NTR has become evident in recent years. Altered p75NTR expression levels are implicated in degeneration of spinal motor neurons in human and mouse models of amyotrophic lateral sclerosis (ALS). Importantly, the extracellular domain of p75NTR (p75ECD) is shed from the cell membrane and excreted in urine. Recent findings further

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suggest that p75ECD could be an early biomarker for ALS in humans, as significantly elevated p75ECD levels are found in urine of ALS patients as compared to healthy controls.

**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:** TNR16\_HUMAN

**Specificity:** Human.

**Cross-reactivity:** This ELISA kit does not cross-react with mouse p75ECD protein.

**Storage:** Store at 2-8C.

**Expiry Date:** 12 months from purchase.

**References:** The following references give a general background on the suitability of p75ECD as a biomarker for ALS disease progression.

Shepherd et al. (2017) *Neurology* 2017 Feb 22. doi: 10.1212/WNL.0000000000003741. [Epub ahead of print].

Shepherd et al. (2014) *PLoS ONE* 9(1): e87398. doi:10.1371/journal.pone.0087398.

DiStefano & Johnson (1988) *Proc Natl Acad Sci USA* 85: 270-274.

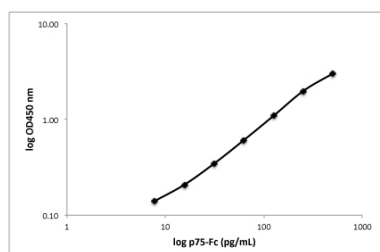
**Kit components:** The ELISA kit box contains 2 x 96-well pre-coated strip plates, protein standards, QC sample, detection reagents, heterophilic antibody blocker, wash and sample buffers, substrate buffer and detailed protocols.

**Range:** 7.8 - 500 pg/mL

**Sensitivity:** Typical limit of detection (LOD) for human p75ECD is less than 4 pg/mL, determined as concentration at blank OD plus 3x standard deviation of blank OD (n=10).

**Kit protocol:** Please refer to our online product listing for current protocol/MSDS versions.

**MSDS:** Please refer to our online product listing for current protocol/MSDS versions.



This standard curve generated in our laboratories is for demonstration purposes only, but can be used as a guide to expected performance. A standard curve should be generated for each assay.

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