SANTA CRUZ BIOTECHNOLOGY, INC.

# NGFR p75 (B-1): sc-271708

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

The Trk oncogene encodes a membrane-spanning protein tyrosine kinase, gp140Trk, whose expression is restricted *in vivo* to neurons of the sensory spinal and cranial ganglia of neural crest origin. Nerve growth factor (NGF) stimulates tyrosine phosphorylation of gp140Trk in neural cell lines and in embryonic dorsal root ganglia. Tyrosine phosphorylation of Trk by NGF is rapid, specific and occurs with picomolar quantities of factor, indicating that the response is mediated by physiological amounts of NGF, suggesting that gp140Trk participates in the primary signal transduction mechanism of NGF. An additional component of the gp140 trk receptor complex, NGFR p75, binds to the neurotrophic factors with low affinity but is required for efficient signaling. NGFR p75 accelerates gp140Trk activation and may recruit downstream effector molecules to the liganded complex.

## REFERENCES


1. Martin-Zanca, D., et al. 1986. A human oncogene formed by the fusion of truncated Tropomyosin and protein tyrosine kinase sequences. Nature 319: 743-748.
2. Reinach, F.C., et al. 1986. Tissue-specific expression of the human Tropomyosin gene involved in the generation of the Trk oncogene. Nature 322: 648-650.


## CHROMOSOMAL LOCATION

Genetic locus: NGFR (human) mapping to 17q21.33; Ngfr (mouse) mapping to 11 D.

## SOURCE

NGFR p75 (B-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 393-427 at the C-terminus of NGFR p75 of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NGFR p75 (B-1) is available conjugated to agarose (sc-271708 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271708 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271708 PE), fluorescein (sc-271708 FITC), Alexa Fluor® 488 (sc-271708 AF488), Alexa Fluor® 546 (sc-271708 AF546), Alexa Fluor® 594 (sc-271708 AF594) or Alexa Fluor® 647 (sc-271708 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271708 AF680) or Alexa Fluor® 790 (sc-271708 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271708 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).



## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

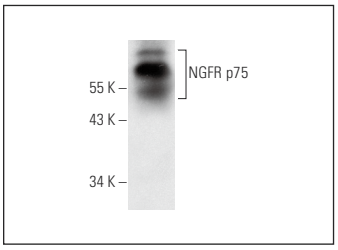
NGFR p75 (B-1) is recommended for detection of NGFR p75 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NGFR p75 siRNA (h): sc-36058, NGFR p75 siRNA (m): sc-37268, NGFR p75 shRNA Plasmid (h): sc-36058-SH, NGFR p75 shRNA Plasmid (m): sc-37268-SH, NGFR p75 shRNA (h) Lentiviral Particles: sc-36058-V and NGFR p75 shRNA (m) Lentiviral Particles: sc-37268-V.

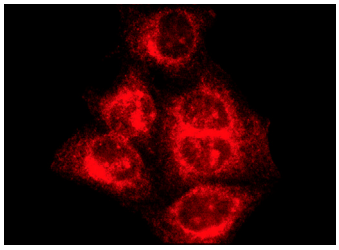
Molecular Weight of NGFR p75: 75 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237, PC-12 cell lysate: sc-2250 or mouse brain extract: sc-2253.

## DATA




NGFR p75 (B-1): sc-271708. Western blot analysis of NGFR p75 expression in SK-N-NC whole cell lysate.



NGFR p75 (B-1): sc-271708. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## SELECT PRODUCT CITATIONS


1. Ventresca, E.M., et al. 2015. Association of $p75^{NTR}$ and $\alpha 9\beta 1$ integrin modulates NGF-dependent cellular responses. Cell. Signal. 27: 1225-1236.
2. Theotokis, P., et al. 2016. Nogo receptor complex expression dynamics in the inflammatory foci of central nervous system experimental autoimmune demyelination. J. Neuroinflammation 13: 265.
3. Hildebrandt, T.B., et al. 2018. Embryos and embryonic stem cells from the white rhinoceros. Nat. Commun. 9: 2589.
4. Di Donato, M., et al. 2019. Nerve growth factor induces proliferation and aggressiveness in prostate cancer cells. Cancers 11: 784.
5. Xhima, K., et al. 2020. Focused ultrasound delivery of a selective TrkA agonist rescues cholinergic function in a mouse model of Alzheimer's disease. Sci. Adv. 6: eaax6646.
6. Jassim, A.H., et al. 2021. Transcorneal electrical stimulation reduces neurodegenerative process in a mouse model of glaucoma. Ann. Biomed. Eng. 49: 858-870.


## RESEARCH USE

For research use only, not for use in diagnostic procedures.