

# p-Trk A (E-6): sc-8058

## BACKGROUND

The Trk proto-oncogene encodes a membrane-spanning protein tyrosine kinase, Trk gp140, also designated Trk A, 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 Trk A 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. Unlike Trk A, tyrosine phosphorylation of Trk B is induced by the brain-derived neurotrophic factor (BDNF) and, to a lesser extent, neurotrophin-3 (NT-3). Additionally, Trk C phosphorylation is induced via interaction with endogenously produced NT-3 and is not dependent on stimulation by NGF.

## SOURCE

p-Trk (E-6) is a mouse monoclonal antibody raised against a sequence containing Tyr 496 phosphorylated Trk A of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-Trk (E-6) is available conjugated to agarose (sc-8058 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8058 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8058 PE), fluorescein (sc-8058 FITC), Alexa Fluor® 488 (sc-8058 AF488), Alexa Fluor® 546 (sc-8058 AF546), Alexa Fluor® 594 (sc-8058 AF594) or Alexa Fluor® 647 (sc-8058 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8058 AF680) or Alexa Fluor® 790 (sc-8058 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-8058 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## APPLICATIONS

p-Trk (E-6) is recommended for detection of Tyr 496 phosphorylated Trk A and correspondingly phosphorylated Trk B and Trk C of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (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 Trk siRNA (h): sc-29511, Trk siRNA (m): sc-29512, Trk shRNA Plasmid (h): sc-29511-SH, Trk shRNA Plasmid (m): sc-29512-SH, Trk shRNA (h) Lentiviral Particles: sc-29511-V and Trk shRNA (m) Lentiviral Particles: sc-29512-V.

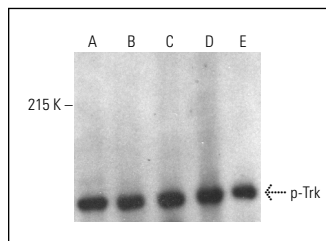
Molecular Weight of p-Trk A: 140 kDa.

Positive Controls: F9 cell lysate: sc-2245, Ramos cell lysate: sc-2216 or K-562 whole cell lysate: sc-2203.

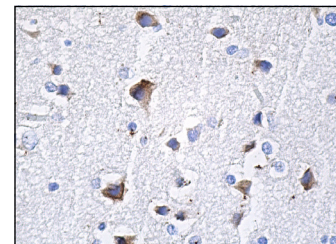
## STORAGE

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

## DATA



p-Trk (E-6) HRP: sc-8058 HRP. Direct western blot analysis of Trk phosphorylation in MEG-01 (A), Neuro-2A (B), F9 (C), K-562 (D) and Ramos (E) whole cell lysates.



p-Trk (E-6): sc-8058. Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal cells.

## SELECT PRODUCT CITATIONS

- Culmsee, C., et al. 2002. Nerve growth factor survival signaling in cultured hippocampal neurons is mediated through Trk A and requires the common neurotrophin receptor P75. *Neuroscience* 115: 1089-1108.
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- Trovò, L., et al. 2013. Low hippocampal PI(4,5)P<sub>2</sub> contributes to reduced cognition in old mice as a result of loss of MARCKS. *Nat. Neurosci.* 16: 449-455.
- Jung, E.J., et al. 2014. Proteomic analysis of SP600125-controlled Trk A-dependent targets in SK-N-MC neuroblastoma cells: inhibition of Trk A activity by SP600125. *Proteomics* 14: 202-215.
- Rosso, P., et al. 2015. Nerve growth factor and autophagy: effect of nasal anti-NGF-antibodies administration on Ambra1 and Beclin-1 expression in rat brain. *Growth Factors* 33: 401-409.
- Moutinho, M., et al. 2016. Neuronal cholesterol metabolism increases dendritic outgrowth and synaptic markers via a concerted action of GGTase-I and Trk. *Sci. Rep.* 6: 30928.
- Pham, T.L., et al. 2017. Defining a mechanistic link between pigment epithelium-derived factor, docosahexaenoic acid, and corneal nerve regeneration. *J. Biol. Chem.* 292: 18486-18499.
- Olmez, I., et al. 2018. Combined c-Met/Trk inhibition overcomes resistance to Cdk4/6 inhibitors in glioblastoma. *Cancer Res.* 78: 4360-4369.
- Segatto, M., et al. 2019. VEGF inhibition alters neurotrophin signalling pathways and induces caspase-3 activation and autophagy in rabbit retina. *J. Cell. Physiol.* 234: 18297-18307.

## RESEARCH USE

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