

# EPHEXIN (K-12): sc-136662

## BACKGROUND

EPHEXIN, also known as NGEF (neuronal guanine nucleotide exchange factor), is a 710 amino acid protein that localizes to both the membrane and the cytoplasm and contains one SH3 domain, one PH domain and one DH domain. Expressed at high levels in brain and present at lower levels in lung tissue, EPHEXIN interacts with EphA4 and functions as a guanine nucleotide exchange factor (GEF) that is capable of activating Rho A, Rac 1 and Cdc42 and is thought to play a role in axon guidance and growth cone collapse. EPHEXIN is subject to Src-dependent phosphorylation, an event that increases the GEF activity of EPHEXIN toward Rho A. Human EPHEXIN, which exists as multiple alternatively spliced isoforms, shares a high degree of sequence homology with its mouse counterpart, suggesting a conserved role between species.

## REFERENCES

- Rodrigues, N.R., et al. 2000. Characterization of Ngef, a novel member of the Dbl family of genes expressed predominantly in the caudate nucleus. *Genomics* 65: 53-61.
- Shamah, S.M., et al. 2001. EphA receptors regulate growth cone dynamics through the novel guanine nucleotide exchange factor ephexin. *Cell* 105: 233-244.
- Schmucker, D., et al. 2001. Signaling downstream of Eph receptors and ephrin ligands. *Cell* 105: 701-704.
- Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605991. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Sahin, M., et al. 2005. Eph-dependent tyrosine phosphorylation of ephexin1 modulates growth cone collapse. *Neuron* 46: 191-204.
- Egea, J., et al. 2005. Regulation of EphA 4 kinase activity is required for a subset of axon guidance decisions suggesting a key role for receptor clustering in Eph function. *Neuron* 47: 515-528.
- Zhang, Y., et al. 2007. Regulation of ephexin1, a guanine nucleotide exchange factor of Rho family GTPases, by fibroblast growth factor receptor-mediated tyrosine phosphorylation. *J. Biol. Chem.* 282: 31103-31112.

## CHROMOSOMAL LOCATION

Genetic locus: NGEF (human) mapping to 2q37; Ngef (mouse) mapping to 1 D.

## SOURCE

EPHEXIN (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of EPHEXIN of human origin.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-136662 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

EPHEXIN (K-12) is recommended for detection of EPHEXIN isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 EPHEXIN siRNA (h): sc-94358, EPHEXIN siRNA (m): sc-144908, EPHEXIN shRNA Plasmid (h): sc-94358-SH, EPHEXIN shRNA Plasmid (m): sc-144908-SH, EPHEXIN shRNA (h) Lentiviral Particles: sc-94358-V and EPHEXIN shRNA (m) Lentiviral Particles: sc-144908-V.

Molecular Weight of EPHEXIN: 82 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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