



Neurobeachin (K-20): sc-84532

BACKGROUND

Neurobeachin, also known as NBEA, BCL8B or lysosomal-trafficking regulator 2 (LYST2), is a 2,946 amino acid A-kinase anchor protein that localizes to the cytoplasm and peripheral membrane, and belongs to the WD repeat Neurobeachin family. By binding the type II regulatory subunits of protein kinase A (PKA), Neurobeachin is able to anchor PKA to the membrane or cytoskeletal and organelle-associated proteins. Neurobeachin is expressed predominantly in brain, with moderate levels found in thymus, prostate, spleen, ovary and testis. Lower levels have been found in kidney, heart, skeletal muscle, intestine and pancreas. Neurobeachin exists as two alternatively spliced isoforms and contains one BEACH domain and five WD repeats. Mutations of the gene encoding Neurobeachin is associated with idiopathic autism and is disrupted in patients with multiple myeloma.

REFERENCES

1. Nagle, D.L., Karim, M.A., Woolf, E.A., Holmgren, L., Bork, P., Misumi, D.J., McGrail, S.H., Dussault, B.J., Perou, C.M., Boissy, R.E., Duyk, G.M., Spritz, R.A. and Moore, K.J. 1996. Identification and mutation analysis of the complete gene for Chediak-Higashi syndrome. *Nat. Genet.* 14: 307-311.
2. Gilbert, D.J., Engel, H., Wang, X., Grzeschik, K.H., Copeland, N.G., Jenkins, N.A. and Kilimann, M.W. 1999. The Neurobeachin gene (Nbea) identifies a new region of homology between mouse central chromosome 3 and human chromosome 13q13. *Mamm. Genome* 10: 1030-1031.
3. Wang, X., Herberg, F.W., Laue, M.M., Wullner, C., Hu, B., Petrasch-Parwez, E. and Kilimann, M.W. 2000. Neurobeachin: A protein kinase A-anchoring, beige/Chediak-higashi protein homolog implicated in neuronal membrane traffic. *J. Neurosci.* 20: 8551-8565.
4. Jogl, G., Shen, Y., Gebauer, D., Li, J., Wiegmann, K., Kashkar, H., Krönke, M. and Tong, L. 2002. Crystal structure of the BEACH domain reveals an unusual fold and extensive association with a novel PH domain. *EMBO J.* 21: 4785-4795.
5. Dyomin, V.G., Chaganti, S.R., Dyomina, K., Palanisamy, N., Murty, V.V., Dalla-Favera, R. and Chaganti, R.S. 2002. BCL8 is a novel, evolutionarily conserved human gene family encoding proteins with presumptive protein kinase A anchoring function. *Genomics* 80: 158-165.
6. Castermans, D., Wilquet, V., Parthoens, E., Huysmans, C., Steyaert, J., Swinnen, L., Fryns, J.P., Van de Ven, W. and Devriendt, K. 2003. The Neurobeachin gene is disrupted by a translocation in a patient with idiopathic autism. *J. Med. Genet.* 40: 352-356.
7. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 604889. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
8. Savelyeva, L., Sagulenko, E., Schmitt, J.G. and Schwab, M. 2006. The Neurobeachin gene spans the common fragile site FRA13A. *Hum. Genet.* 118: 551-558.

STORAGE

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

CHROMOSOMAL LOCATION

Genetic locus: NBEA (human) mapping to 13q13; Nbea (mouse) mapping to 3 C.

SOURCE

Neurobeachin (K-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of Neurobeachin of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84532 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Neurobeachin (K-20) is recommended for detection of Neurobeachin 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); non cross-reactive with isoforms 1 and 2.

Suitable for use as control antibody for Neurobeachin siRNA (h): sc-75907, Neurobeachin siRNA (m): sc-149931, Neurobeachin shRNA Plasmid (h): sc-75907-SH, Neurobeachin shRNA Plasmid (m): sc-149931-SH, Neurobeachin shRNA (h) Lentiviral Particles: sc-75907-V and Neurobeachin shRNA (m) Lentiviral Particles: sc-149931-V.

Molecular Weight of Neurobeachin: 328 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.