

BICD1 (N-20): sc-241921

BACKGROUND

BICD1 [bicaudal D homolog 1 (*Drosophila*)], also known as cytoskeleton-like bicaudal D protein homolog 1, protein bicaudal D homolog 1, Bic-D 1 or BICD, is one of 2 human homologs of *Drosophila* BICD, and consists of 975 amino acids. BICD1 localizes to the Golgi apparatus, belongs to the BICD family and is expressed in skeletal muscle, brain and heart. BICD1 colocalizes with Rab 6A on the *trans*-Golgi network (TGN) and on cytoplasmic vesicles, and is known to recruit the dynein-dynactin motor complex to regulate coat complex coatmer protein I (COPI)-independent Golgi-to-endoplasmic reticulum vacuolar transport. As a result of alternative splicing events, three BICD1 isoforms exist. BICD1 is encoded by a gene mapping to human chromosome 12p11.21, and is a likely component of a cytoskeleton-based mRNA sorting mechanism conserved during evolution.

REFERENCES

- Baens, M., Aerssens, J., van Zand, K., Van den Berghe, H. and Marynen, P. 1995. Isolation and regional assignment of human chromosome 12p cDNAs. *Genomics* 29: 44-52.
- Baens, M. and Marynen, P. 1997. A human homologue (BICD1) of the *Drosophila* bicaudal-D gene. *Genomics* 45: 601-606.
- Bullock, S.L. and Ish-Horowitz, D. 2001. Conserved signals and machinery for RNA transport in *Drosophila* oogenesis and embryogenesis. *Nature* 414: 611-616.
- Matanis, T., Akhmanova, A., Wulf, P., Del Nery, E., Weide, T., Stepanova, T., Galjart, N., Grosveld, F., Goud, B., De Zeeuw, C.I., Barnekow, A. and Hoogenraad, C.C. 2002. Bicaudal-D regulates COPI-independent Golgi-ER transport by recruiting the dynein-dynactin motor complex. *Nat. Cell Biol.* 4: 986-992.
- Claussen, M. and Suter, B. 2005. BicD-dependent localization processes: from *Drosophila* development to human cell biology. *Ann. Anat.* 187: 539-553.
- Mangino, M., Brouillette, S., Braund, P., Tirmizi, N., Vasa-Nicotera, M., Thompson, J.R. and Samani, N.J. 2008. A regulatory SNP of the BICD1 gene contributes to telomere length variation in humans. *Hum. Mol. Genet.* 17: 2518-2523.
- Online Mendelian Inheritance in Man, OMIM[™]. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 602204. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: BICD1 (human) mapping to 12p11.21.

SOURCE

BICD1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of BICD1 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.

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-241921 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

BICD1 (N-20) is recommended for detection of BICD1 of human and rat 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 BICD2.

BICD1 (N-20) is also recommended for detection of BICD1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for BICD1 siRNA (h): sc-96153, BICD1 shRNA Plasmid (h): sc-96153-SH and BICD1 shRNA (h) Lentiviral Particles: sc-96153-V.

Molecular Weight of BICD1: 111 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.

PROTOCOLS

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