SANTA CRUZ BIOTECHNOLOGY, INC.

BICD2 (E-12): sc-393631

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The Power to Question

BACKGROUND

BICD2 [bicaudal D homolog 2 *(Drosophila)],* whose alternative names include protein bicaudal D homolog 2, Bic-D 2, KIAA0699 or bA526D8.1, is one of two human homologs of *Drosophila* BICD and consists of 824 amino acids. BICD2 is ubiquitously expressed and localizes to the Golgi apparatus, cytoplasm and cytoskeleton. BICD2 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 coatomer protein I (COPI)-independent Golgi-to-endoplasmic reticulum vacuolar transport. BICD2 is phosphorylated by NEK9 *in vitro,* and interacts with Dynactin 2. Existing as two isoforms due to alternative splicing events, BICD2 is encoded by a gene mapping to human chromosome 9.

REFERENCES

1. Ishikawa, K., et al. 1998. Prediction of the coding sequences of unidentified human genes. X. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro.* DNA Res. 5: 169-176.
2. Hoogenraad, C.C., et al. 2001. Mammalian Golgi-associated bicaudal-D2 functions in the dynein-dynactin pathway by interacting with these complexes. EMBO J. 20: 4041-4054.
3. Holland, P.M., et al. 2002. Purification, cloning, and characterization of Nek8, a novel NIMA-related kinase, and its candidate substrate BICD2. J. Biol. Chem. 277: 16229-16240.
4. Matanis, T., et al. 2002. Bicaudal-D regulates COPI-independent Golgi-ER transport by recruiting the dynein-dynactin motor complex. Nat. Cell Biol. 4: 986-992.

CHROMOSOMAL LOCATION

Genetic locus: BICD2 (human) mapping to 9q22.31; Bicd2 (mouse) mapping to 13 A5.

SOURCE

BICD2 (E-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 154-173 near the N-terminus of BICD2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BICD2 (E-12) is available conjugated to agarose (sc-393631 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393631 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393631 PE), fluorescein (sc-393631 FITC), Alexa Fluor® 488 (sc-393631 AF488), Alexa Fluor® 546 (sc-393631 AF546), Alexa Fluor® 594 (sc-393631 AF594) or Alexa Fluor® 647 (sc-393631 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393631 AF680) or Alexa Fluor® 790 (sc-393631 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393631 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

BICD2 (E-12) is recommended for detection of BICD2 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), 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).

BICD2 (E-12) is also recommended for detection of BICD2 in additional species, including equine and porcine.

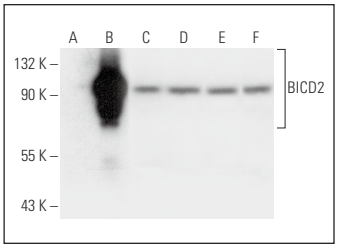
Suitable for use as control antibody for BICD2 siRNA (h): sc-92831, BICD2 siRNA (m): sc-141701, BICD2 shRNA Plasmid (h): sc-92831-SH, BICD2 shRNA Plasmid (m): sc-141701-SH, BICD2 shRNA (h) Lentiviral Particles: sc-92831-V and BICD2 shRNA (m) Lentiviral Particles: sc-141701-V.

Molecular Weight (predicted) of BICD2: 94 kDa.

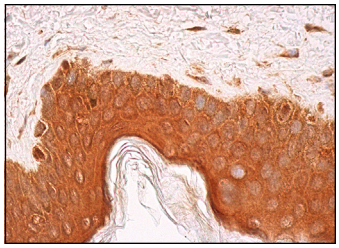
Molecular Weight (observed) of BICD2: 104 kDa.

Positive Controls: BICD2 (m): 293T Lysate: sc-118810, MES-SA/Dx5 cell lysate: sc-2284 or SK-MEL-28 cell lysate: sc-2236.

DATA



BICD2 (E-12): sc-393631. Western blot analysis of BICD2 expression in non-transfected 293T: sc-117752 (**A**), mouse BICD2 transfected 293T: sc-118810 (**B**), MES-SA/Dx5 (**C**), SK-MEL-28 (**D**), HeLa (**E**) and T24 (**F**) whole cell lysates.



BICD2 (E-12): sc-393631. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, Fibroblasts, Langerhans cells and melanocytes.

SELECT PRODUCT CITATIONS

1. Schroeder, C.M. and Vale, R.D. 2016. Assembly and activation of dynein-dynactin by the cargo adaptor protein HOOK3. J. Cell Biol. 214: 309-318.
2. Solé-Boldo, L., et al. 2020. Single-cell transcriptomes of the human skin reveal age-related loss of fibroblast priming. Commun. Biol. 3: 188.

STORAGE

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

RESEARCH USE

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