SANTA CRUZ BIOTECHNOLOGY, INC.

DACH2 (A-5): sc-515091

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

DACH2 (dachshund homolog 2) is one of two mammalian homologues of the *Drosophila* dachschund, a transcription factor involved in cell fate determination in the eye, limb and genital disc of the fly. DACH2 is a 599 amino acid protein that contains two characteristic dachshund domains: an N-terminal domain responsible for DNA binding and a C-terminal domain responsible for protein-protein interactions. Localized to the nucleus, DACH2 functions as a transcription factor that is involved in the regulation of organogenesis. DACH2 interacts with Six1 and EYA2 to regulate myogenesis, and is also involved in the corepression of Six6 by directly repressing cyclin-dependent kinase inhibitors. Three named isoforms of DACH2 exist as a result of alternative splicing events.

REFERENCES

1. Heanue, T.A., et al. 1999. Synergistic regulation of vertebrate muscle development by DACH2, EYA2, and Six1, homologs of genes required for *Drosophila* eye formation. Genes Dev. 13: 3231-3243.
2. Mennerich, D. and Braun, T. 2001. Activation of myogenesis by the homeobox gene Lbx1 requires cell proliferation. EMBO J. 20: 7174-7183.
3. Davis, R.J., et al. 2001. Characterization of mouse DACH2, a homologue of *Drosophila* dachshund. Mech. Dev. 102: 169-179.
4. Backman, M., et al. 2003. Targeted disruption of mouse DACH1 results in postnatal lethality. Dev. Dyn. 226: 139-144.
5. Wu, K., et al. 2003. DACH1 inhibits transforming growth factor-β signaling through binding Smad4. J. Biol. Chem. 278: 51673-51684.
6. Ozaki, H., et al. 2004. Six1 controls patterning of the mouse otic vesicle. Development 131: 551-562.

CHROMOSOMAL LOCATION

Genetic locus: DACH2 (human) mapping to Xq21.2; Dach2 (mouse) mapping to X E1.

SOURCE

DACH2 (A-5) is a mouse monoclonal antibody raised against amino acids 227-315 mapping within an internal region of DACH2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-515091 X, 200 µg/0.1 ml.

DACH2 (A-5) is available conjugated to agarose (sc-515091 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515091 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515091 PE), fluorescein (sc-515091 FITC), Alexa Fluor® 488 (sc-515091 AF488), Alexa Fluor® 546 (sc-515091 AF546), Alexa Fluor® 594 (sc-515091 AF594) or Alexa Fluor® 647 (sc-515091 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515091 AF680) or Alexa Fluor® 790 (sc-515091 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

DACH2 (A-5) is recommended for detection of DACH2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

DACH2 (A-5) is also recommended for detection of DACH2 in additional species, including canine.

Suitable for use as control antibody for DACH2 siRNA (h): sc-77091, DACH2 siRNA (m): sc-77092, DACH2 shRNA Plasmid (h): sc-77091-SH, DACH2 shRNA Plasmid (m): sc-77092-SH, DACH2 shRNA (h) Lentiviral Particles: sc-77091-V and DACH2 shRNA (m) Lentiviral Particles: sc-77092-V.

DACH2 (A-5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

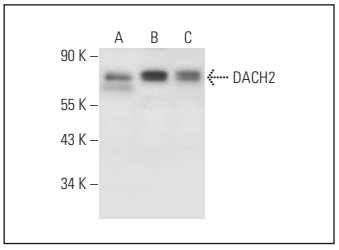
Molecular Weight of DACH2: 65 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Jurkat whole cell lysate: sc-2204 or NIH/3T3 whole cell lysate: sc-2210.

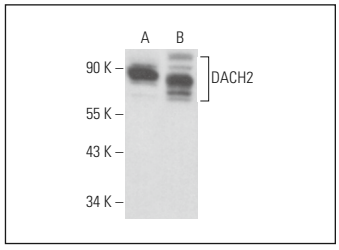
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DACH2 (A-5): sc-515091. Western blot analysis of DACH2 expression in Hep G2 (**A**), Jurkat (**B**) and NIH/3T3 (**C**) whole cell lysates.



DACH2 (A-5): sc-515091. Western blot analysis of DACH2 expression in IMR-32 (**A**) and 3T3-L1 (**B**) whole cell lysates.

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.