

DACH1 (A-6): sc-398706



The Power to Question

BACKGROUND

DACH1 (dachshund homolog 1), also known as DACH, is a 758 amino acid homolog of the *Drosophila* dachshund gene that encodes a nuclear factor involved in eye, leg and nervous system development. Localized to the nucleus and expressed throughout the body, DACH1 is a transcription factor that regulates the activation of a variety of genes involved in organogenesis and is crucial in proper eye formation. Through association with Smad4 and NCOR1, DACH1 is able to inhibit the TGF- β signaling pathway and, via its DACHbox-N domain, can bind directly to chromatin where it regulates transcription. Additionally, DACH1 can block cellular proliferation and growth of human breast cancer cells, suggesting a possible role in tumor suppression. Four isoforms of DACH1 exist due to alternative splicing events.

REFERENCES

- Ayres, J.A., et al. 2001. DACH: genomic characterization, evaluation as a candidate for postaxial polydactyly type A2, and developmental expression pattern of the mouse homologue. *Genomics* 77: 18-26.
- Heanue, T.A., et al. 2002. DACH1, a vertebrate homologue of *Drosophila* dachshund, is expressed in the developing eye and ear of both chick and mouse and is regulated independently of Pax and Eya genes. *Mech. Dev.* 111: 75-87.
- Wu, K., et al. 2003. DACH1 inhibits transforming growth factor- β signaling through binding Smad4. *J. Biol. Chem.* 278: 51673-51684.

CHROMOSOMAL LOCATION

Genetic locus: DACH1 (human) mapping to 13q21.33; Dach1 (mouse) mapping to 14 E2.1.

SOURCE

DACH1 (A-6) is a mouse monoclonal antibody raised against amino acids 528-620 mapping within an internal region of DACH1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} 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-398706 X, 200 μ g/0.1 ml.

DACH1 (A-6) is available conjugated to agarose (sc-398706 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398706 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398706 PE), fluorescein (sc-398706 FITC), Alexa Fluor[®] 488 (sc-398706 AF488), Alexa Fluor[®] 546 (sc-398706 AF546), Alexa Fluor[®] 594 (sc-398706 AF594) or Alexa Fluor[®] 647 (sc-398706 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398706 AF680) or Alexa Fluor[®] 790 (sc-398706 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

DACH1 (A-6) is recommended for detection of DACH1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

DACH1 (A-6) is also recommended for detection of DACH1 in additional species, including bovine and porcine.

Suitable for use as control antibody for DACH1 siRNA (h): sc-77089, DACH1 siRNA (m): sc-77090, DACH1 shRNA Plasmid (h): sc-77089-SH, DACH1 shRNA Plasmid (m): sc-77090-SH, DACH1 shRNA (h) Lentiviral particles: sc-77089-V and DACH1 shRNA (m) Lentiviral Particles: sc-77090-V.

DACH1 (A-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

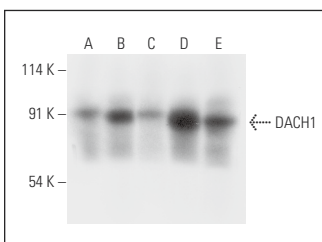
Molecular Weight of DACH1: 79 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, human kidney extract: sc-363764 or mouse kidney extract: sc-2255.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



DACH1 (A-6): sc-398706. Western blot analysis of DACH1 expression in HeLa (A), Jurkat (B) and MCF7 (C) whole cell lysates and human kidney (D) and mouse kidney (E) tissue extracts.

SELECT PRODUCT CITATIONS

- Ge, X., et al. 2022. Chromium (VI)-induced ALDH1A1/EGF axis promotes lung cancer progression. *Clin. Transl. Med.* 12: e1136.

RESEARCH USE

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