

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

1. 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.
2. 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.
3. 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.

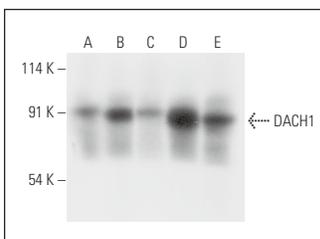
Molecular Weight of DACH1: 79 kDa.

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

1. 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.