

DACH1 (P-12): sc-70256

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

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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.
4. Wu, K., et al. 2006. DACH1 is a cell fate determination factor that inhibits cyclin D1 and breast tumor growth. *Mol. Cell. Biol.* 26: 7116-7129.
5. Sunde, J.S., et al. 2006. Expression profiling identifies altered expression of genes that contribute to the inhibition of transforming growth factor- β signaling in ovarian cancer. *Cancer Res.* 66: 8404-8412.
6. Sundaram, K., et al. 2007. DACH1 negatively regulates the human RANK ligand gene expression in stromal/preosteoblast cells. *J. Cell. Biochem.*
7. Klassen, H., et al. 2007. Progenitor cells from the porcine neural retina express photoreceptor markers after transplantation to the subretinal space of allorecipients. *Stem Cells.* 25: 1222-1230.
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CHROMOSOMAL LOCATION

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

SOURCE

DACH1 (P-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of DACH1 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 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-70256 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-70256 X, 200 μ g/0.1 ml.

APPLICATIONS

DACH1 (P-12) is recommended for detection of DACH1 of mouse, rat and human 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).

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 (P-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of DACH1: 79 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.