

Dbbs (D-15): sc-26125

BACKGROUND

The Dbl family act as guanine nucleotide exchange factors (GEFs) specific for Rho guanosine triphosphatases (GTPases). They regulate Rho GTPase function by stimulating formation of the active, GTP-bound state. All Dbl family members invariably possess a tandem domain structure, which consists of a Dbl homology (DH) catalytic domain followed by a pleckstrin homology (PH) regulatory domain. Dbbs (for Dbl's big sister) differs from Dbl by the addition of an amino terminal extension and a carboxy terminal SH3 domain. Unlike Dbl, it also requires the presence of the PH domain for the intrinsic catalytic activity of the DH domain. The expression of Dbbs is high in several tissues, including brain, and low in thymus and spleen. Dbbs exhibits guanine nucleotide exchange activity for Rho A and Cdc42 to mediate growth deregulation. Dbbs activity involves multiple signaling pathways that include activation of the Elk-1, Jun, and NFκB transcription factors and stimulation of transcription from the cyclin D1 promoter.

REFERENCES

- Rossman, K.L., Cheng, L., Mahon, G.M., Rojas, R.J., Snyder, J.T., Whitehead, I.P. and Sondek, J. 2003. Multifunctional roles for the PH domain of Dbbs in regulating Rho GTPase activation. *J. Biol. Chem.* 20: 18393-18400.
- Fuentes, E.J., Karnoub, A.E., Booden, M.A., Der, C.J. and Campbell, S.L. 2003. Critical role of the pleckstrin homology domain in Dbbs signaling and growth regulation. *J. Biol. Chem.* 23: 21188-21196.
- Rossman, K.L., Worthylake, D.K., Snyder, J.T., Siderovski, D.P., Campbell, S.L. and Sondek, J. 2002. A crystallographic view of interactions between Dbbs and Cdc42: PH domain-assisted guanine nucleotide exchange. *EMBO J.* 21: 1315-1326.
- Whitehead, I.P., Lambert, Q.T., Glaven, J.A., Abe, K., Rossman, K.L., Mahon, G.M., Trzaskos, J.M., Kay, R., Campbell, S.L. and Der C.J. 1999. Dependence of Dbl and Dbbs transformation on MEK and NFκB activation. *Mol. Cell. Biol.* 19: 7759-7770.
- Whitehead, I., Kirk, H. and Kay, R. 1995. Retroviral transduction and oncogenic selection of a cDNA encoding Dbbs, a homolog of the Dbl guanine nucleotide exchange factor. *Oncogene* 10: 713-721.

CHROMOSOMAL LOCATION

Genetic locus: MCF2L (human) mapping to 13q34; Mcf2l (mouse) mapping to 8 A1.1.

SOURCE

Dbbs (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Dbbs of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26125 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Dbbs (D-15) is recommended for detection of Dbbs 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).

Dbbs (D-15) is also recommended for detection of Dbbs in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for Dbbs siRNA (h): sc-41728, Dbbs siRNA (m): sc-41729, Dbbs shRNA Plasmid (h): sc-41728-SH, Dbbs shRNA Plasmid (m): sc-41729-SH, Dbbs shRNA (h) Lentiviral Particles: sc-41728-V and Dbbs shRNA (m) Lentiviral Particles: sc-41729-V.

Molecular Weight of Dbbs: 128 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **Dbbs (C-7): sc-376400**, our highly recommended monoclonal alternative to Dbbs (D-15).