SANTA CRUZ BIOTECHNOLOGY, INC.

Dbs (C-7): sc-376400

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Dbs (for Dbl's big sister), also known as Ost or MCF2L, 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 Dbs is high in several tissues, including brain, and low in thymus and spleen. Dbs exhibits guanine nucleotide exchange activity for Rho A and Cdc42 to mediate growth deregulation. Dbs 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

1. Whitehead, I., et al. 1995. Retroviral transduction and oncogenic selection of a cDNA encoding Dbs, a homolog of the Dbl guanine nucleotide exchange factor. Oncogene 10: 713-721.
2. Whitehead, I.P., et al. 1999. Dependence of Dbl and Dbs transformation on MEK and NFκB activation. Mol. Cell. Biol. 19: 7759-7770.
3. Rossman, K.L., et al. 2002. A crystallographic view of interactions between Dbs and Cdc42: PH domain-assisted guanine nucleotide exchange. EMBO J. 21: 1315-1326.
4. Rossman, K.L., et al. 2003. Multifunctional roles for the PH domain of Dbs in regulating Rho GTPase activation. J. Biol. Chem. 278: 18393-18400.
5. Fuentes, E.J., et al. 2003. Critical role of the Pleckstrin homology domainin Dbs signaling and growth regulation. J. Biol. Chem. 278: 21188-21196.

CHROMOSOMAL LOCATION

Genetic locus: MCF2L (human) mapping to 13q34.

SOURCE

Dbs (C-7) is a mouse monoclonal antibody raised against amino acids mapping within an internal region of Dbs 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.

Dbs (C-7) is available conjugated to agarose (sc-376400 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376400 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376400 PE), fluorescein (sc-376400 FITC), Alexa Fluor® 488 (sc-376400 AF488), Alexa Fluor® 546 (sc-376400 AF546), Alexa Fluor® 594 (sc-376400 AF594) or Alexa Fluor® 647 (sc-376400 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376400 AF680) or Alexa Fluor® 790 (sc-376400 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Dbs (C-7) is recommended for detection of Dbs of 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).

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

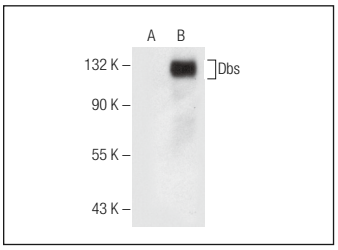
Molecular Weight of Dbs: 128 kDa.

Positive Controls: Dbs (h): 293T Lysate: sc-159837 or HeLa whole cell lysate: sc-2200.

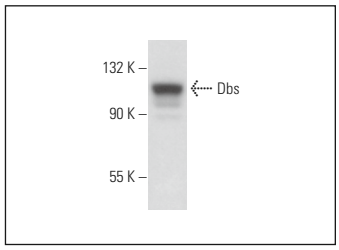
RECOMMENDED SUPPORT REAGENTS

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



Dbs (C-7): sc-376400. Western blot analysis of Dbs expression in non-transfected: sc-117752 (**A**) and human Dbs transfected: sc-159837 (**B**) 293T whole cell lysates.



Dbs (C-7): sc-376400. Western blot analysis of Dbs expression in HeLa whole cell lysate.

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 for detailed protocols and support products.