

Dbc (C-7): sc-376400

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. Dbc (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 Dbc is high in several tissues, including brain, and low in thymus and spleen. Dbc exhibits guanine nucleotide exchange activity for Rho A and Cdc42 to mediate growth deregulation. Dbc activity involves multiple signaling pathways that include activation of the Elk-1, Jun and NF κ B transcription factors and stimulation of transcription from the cyclin D1 promoter.

REFERENCES

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

CHROMOSOMAL LOCATION

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

SOURCE

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

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Dbc (C-7) is available conjugated to agarose (sc-376400 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376400 HRP), 200 μ g/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 μ g/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 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

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

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

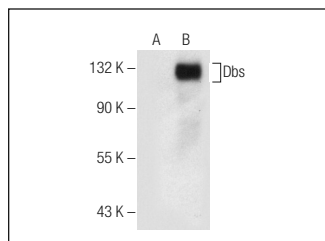
Molecular Weight of Dbc: 128 kDa.

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

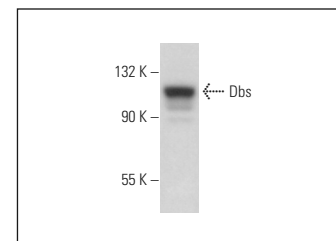
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-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



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



Dbc (C-7): sc-376400. Western blot analysis of Dbc 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.