# SANTA CRUZ BIOTECHNOLOGY, INC.

# Dbs (L-20): sc-901



# BACKGROUND

The DbI 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 DbI family members invariably possess a tandem domain structure, which consists of a DbI homology (DH) catalytic domain followed by a pleckstrin homology (PH) regulatory domain. Dbs (for DbI's big sister) differs from DbI by the addition of an amino terminal extension and a carboxy terminal SH3 domain. Unlike DbI, 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 NF $\kappa$ B 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 NF $\kappa$ B activation. Mol. Cell. Biol. 19: 7759-7770.
- 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.
- Rossman, K.L., et al. 2003. Multifunctional roles for the PH domain of Dbs in regulating Rho GTPase activation. J. Biol. Chem. 20: 18393-18400.

# CHROMOSOMAL LOCATION

Genetic locus: MCF2L (human) mapping to 13q34; Mcf2I (mouse) mapping to 8 A2.

# SOURCE

Dbs (L-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of Dbs of mouse origin.

#### PRODUCT

Each vial contains 200  $\mu g$  IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-901 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

#### STORAGE

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

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

# APPLICATIONS

Dbs (L-20) is recommended for detection of Dbs of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Dbs (L-20) is also recommended for detection of Dbs in additional species, including equine, canine, bovine and porcine.

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

Molecular Weight of Dbs: 128 kDa.

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

#### DATA





Dbs (L-20): sc-901. Western blot analysis of Dbs expression in non-transfected: sc-117752 (**A**) and human Dbs transfected: sc-159837 (**B**) 293T whole cell lysates.

Dbs (L-20): sc-901. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization.

## SELECT PRODUCT CITATIONS

- Strassheim, D., et al. 2000. Unique *in vivo* associations with SmgGDS and Rho GDI and different guanine nucleotide exchange activities exhibited by Rho A, dominant negative Rho A Asn 19, and activated RhoA Val 14. J. Biol. Chem. 275: 6699-6702.
- Liu, Z., et al. 2009. The Rho-specific guanine nucleotide exchange factor Dbs regulates breast cancer cell migration. J. Biol. Chem. 284: 15771-15780.

# **RESEARCH USE**

For research use only, not for use in diagnostic procedures.

MONOS Satisfation Guaranteed

Try **Dbs (C-7): sc-376400**, our highly recommended monoclonal alternative to Dbs (L-20).