

Dbp (h): 293T Lysate: sc-159837

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. Dbp (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 Dbp is high in several tissues, including brain, and low in thymus and spleen. Dbp exhibits guanine nucleotide exchange activity for Rho A and Cdc42 to mediate growth deregulation. Dbp 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

1. Whitehead, I., Kirk, H. and Kay, R. 1995. Retroviral transduction and oncogenic selection of a cDNA encoding Dbp, a homolog of the Dbl guanine nucleotide exchange factor. *Oncogene* 10: 713-721.
2. 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 Dbp transformation on MEK and NF κ B activation. *Mol. Cell. Biol.* 19: 7759-7770.
3. 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 Dbp and Cdc42: PH domain-assisted guanine nucleotide exchange. *EMBO J.* 21: 1315-1326.
4. 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 Dbp in regulating Rho GTPase activation. *J. Biol. Chem.* 278: 18393-18400.
5. 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 Dbp signaling and growth regulation. *J. Biol. Chem.* 278: 21188-21196.

CHROMOSOMAL LOCATION

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

PRODUCT

Dbp (h): 293T Lysate represents a lysate of human Dbp transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

Dbp (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Dbp antibodies.

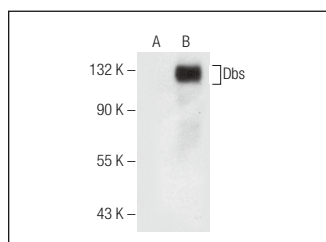
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Dbp (C-7): sc-376400 is recommended as a positive control antibody for Western Blot analysis of enhanced human Dbp expression in Dbp transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



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

RESEARCH USE

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