SANTA CRUZ BIOTECHNOLOGY, INC.

Dbl (H-135): sc-28582

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The superfamily of GTP binding proteins, for which the Ras proteins are prototypes, has been implicated in regulation of a broad range of biological activities. One member of the family, Cdc42Hs (originally referred to as Gp or G25K), appears to represent the human homolog of the *Saccharomyces cerevisiae* cell division protein, Cdc42Sc. The predicted amino acid sequence of Cdc42Hs is very similar to those of various members of the Ras superfamily proteins including N-, K- and H-Ras proteins (30-35% identical), Rho proteins (50% identical) and the Rac proteins (70% identical). A second *S. cerevisiae* protein, Cdc24, which is known from complementation studies to act with Cdc42Sc to regulate the development of normal cell shape in yeast, contains a region of sequence homology with the Dbl oncogene product. Dbl specifically catalyzes the dissociation of GDP from Cdc42Hs, thus representing a highly selective guanine nucleotide exchange factor for Cdc42Hs.

REFERENCES

1. Hart, M.J., et al. 1991. Catalysis of guanine nucleotide exchange on the Cdc42Hs protein by the dbl oncogene product. Nature 354: 311-314.
2. Hall, A. 1990. The cellular functions of small GTP-binding proteins. Science 249: 635-640.
3. Bourne, H.R., et al. 1990. The GTPase superfamily: a conserved switch for diverse cell functions. Nature 348: 125-132.
4. Adams, A.E.M., et al. 1990. Cdc42 and Cdc43, two additional genes involved in budding and the establishment of cell polarity in the yeast *Saccharomyces cerevisiae*. J. Cell Biol. 111: 131-142.
5. Munemitsu, S., et al. 1990. Molecular cloning and expression of a G25K cDNA, the human homolog of the yeast cell cycle gene Cdc42. Mol. Cell. Biol. 10: 5977-5982.
6. Shinjo, K., et al. 1990. Molecular cloning of the gene for the human placental GTP-binding protein Gp (G25K): identification of this GTP-binding protein as the human homolog of the yeast cell-division-cycle protein Cdc42. Proc. Natl. Acad. Sci. USA 87: 9853-9857.
7. Ron, D., et al. 1988. Molecular cloning and characterization of the human Dbl proto-oncogene: evidence that its overexpression is sufficient to transform NIH/3T3 cells. EMBO J. 7: 2465-2473.
8. Evans, T., et al. 1986. Purification of the major GTP-binding proteins from human placental membranes. J. Biol. Chem. 261: 7052-7059.

SOURCE

Dbl (H-135) is a rabbit polyclonal antibody raised against amino acids 791-925 mapping at the C-terminus of Dbl of human origin.

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.

PRODUCT

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

APPLICATIONS

Dbl (H-135) is recommended for detection of Dbl isoforms 1-4 of human origin by Western Blotting (starting dilution 1:200, 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 Dbl siRNA (h): sc-35181.

Molecular Weight of Dbl: 115 kDa.

Positive Controls: A-431 Whole Cell Lysate: sc-2201.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Kamynina, E., et al. 2007. Regulation of proto-oncogenic Dbl by chaperone-controlled, ubiquitin-mediated degradation. Mol. Cell. Biol. 27: 1809-1822.

PROTOCOLS

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