SANTA CRUZ BIOTECHNOLOGY, INC.

Dist1 (Q-14): sc-164187

BACKGROUND

The rhomboid family of genes encode a group of proteins with six- or seven-transmembrane domains found in a wide range of organisms. Dist1, also known as RHBDF1 (rhomboid family member 1), rhomboid 5 homolog 1, p100hRho or C16orf8, is an 855 amino acid multi-pass membrane protein localized to the endoplasmic reticulum and Golgi apparatus. Belonging to the peptidase S54 family, Dist1 interacts with TGFα and HB-EGF and is not expected to have protease activity. Dist1 gene function is essential to epithelial cancer cell growth because it sustains growth signals. Existing as a homodimer or homooligomer, Dist1 is highly expressed in heart, skeletal muscle, placenta and pancreatic islet, with lower levels in colon, kidney, small intestine and lung. The gene encoding Dist1 maps to human chromosome 16p13.3 and mouse chromosome 11 A4.

REFERENCES

1. Koonin, E.V., et al. 2003. The rhomboids: a nearly ubiquitous family of intramembrane serine proteases that probably evolved by multiple ancient horizontal gene transfers. Genome Biol. 4: R19.
2. Nakagawa, T., et al. 2005. Characterization of a human rhomboid homolog, p100hRho/RHBDF1, which interacts with TGF-α family ligands. Dev. Dyn. 233: 1315-1331.
3. Lemberg, M.K., et al. 2007. Cutting proteins within lipid bilayers: rhomboid structure and mechanism. Mol. Cell 28: 930-940.
4. Wang, Y., et al. 2008. A novel member of the Rhomboid family, RHBDD1, regulates BIK-mediated apoptosis. Cell. Mol. Life Sci. 65: 3822-3829.
5. Yan, Z., et al. 2008. Human rhomboid family-1 gene silencing causes apoptosis or autophagy to epithelial cancer cells and inhibits xenograft tumor growth. Mol. Cancer Ther. 7: 1355-1364.
6. Zou, H., et al. 2009. Human rhomboid family-1 gene RHBDF1 participates in GPCR-mediated transactivation of EGFR growth signals in head and neck squamous cancer cells. FASEB J. 23: 425-432.
7. Freeman, M. 2009. Rhomboids: 7 years of a new protease family. Semin. Cell Dev. Biol. 20: 231-239.

CHROMOSOMAL LOCATION

Genetic locus: RHBDF1 (human) mapping to 16p13.3; Rhbdf1 (mouse) mapping to 11 A4.

SOURCE

Dist1 (Q-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of Dist1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-164187 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Dist1 (Q-14) is recommended for detection of Dist1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Dist1 (Q-14) is also recommended for detection of Dist1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Dist1 siRNA (h): sc-93509, Dist1 siRNA (m): sc-143049, Dist1 shRNA Plasmid (h): sc-93509-SH, Dist1 shRNA Plasmid (m): sc-143049-SH, Dist1 shRNA (h) Lentiviral Particles: sc-93509-V and Dist1 shRNA (m) Lentiviral Particles: sc-143049-V.

Molecular Weight of Dist1: 97 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.