

# RHBDL1 (D-20): sc-139041

## BACKGROUND

Members of the rhomboid family of integral membrane proteins are related to *Drosophila* Rhomboid-1, a serine protease that cleaves the membrane domain of the *Drosophila* EGF-family protein, Spitz, to release a soluble growth factor. Rhomboid-related protein 1 (RHBDL1) is a 438 amino acid multi-pass membrane protein belonging to the rhomboid family. As an intramembrane serine protease, RHBDL1 cleaves type-1 transmembrane domains using a catalytic dyad composed of serine and histidine that are contributed by different transmembrane domains. Believed to be expressed in heart, brain, skeletal muscle and kidney, RHBDL1 can exist as two isoforms due to alternative splicing events. RHBDL1 is encoded by a gene mapping to human chromosome 16p13.3.

## REFERENCES

- Urban, S., et al. 2001. *Drosophila* rhomboid-1 defines a family of putative intramembrane serine proteases. *Cell* 107: 173-182.
- Urban, S., et al. 2002. A family of Rhomboid intramembrane proteases activates all *Drosophila* membrane-tethered EGF ligands. *EMBO J.* 21: 4277-4286.
- Urban, S., et al. 2003. Substrate specificity of rhomboid intramembrane proteases is governed by helix-breaking residues in the substrate transmembrane domain. *Mol. Cell* 11: 1425-1434.
- Pascall, J.C., et al. 2004. Intramembrane cleavage of ephrinB3 by the human rhomboid family protease, RHBDL2. *Biochem. Biophys. Res. Commun.* 317: 244-252.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608962. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Urban, S. 2006. Rhomboid proteins: conserved membrane proteases with divergent biological functions. *Genes Dev.* 20: 3054-3068.

## CHROMOSOMAL LOCATION

Genetic locus: RHBDL1 (human) mapping to 16p13.3; Rhbd1 (mouse) mapping to 17 A3.3.

## SOURCE

RHBDL1 (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RHBDL1 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-139041 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

RHBDL1 (D-20) is recommended for detection of RHBDL1 of mouse and 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); non cross-reactive with RHBDL2 or RHBDL6.

RHBDL1 (D-20) is also recommended for detection of RHBDL1 in additional species, including equine and canine.

Suitable for use as control antibody for RHBDL1 siRNA (h): sc-93492, RHBDL1 siRNA (m): sc-152846, RHBDL1 shRNA Plasmid (h): sc-93492-SH, RHBDL1 shRNA Plasmid (m): sc-152846-SH, RHBDL1 shRNA (h) Lentiviral Particles: sc-93492-V and RHBDL1 shRNA (m) Lentiviral Particles: sc-152846-V.

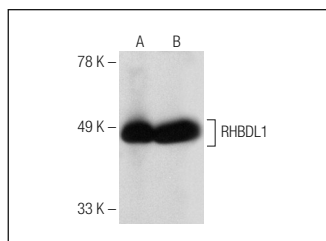
Molecular Weight of RHBDL1: 48 kDa.

Positive Controls: mouse brain extract: sc-2253.

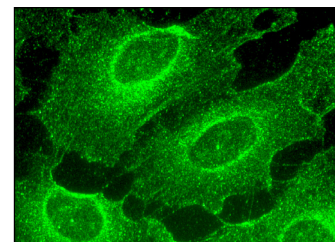
## RECOMMENDED SECONDARY REAGENTS

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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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 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<sup>™</sup> Mounting Medium: sc-24941.

## DATA



RHBDL1 (D-20): sc-139041. Western blot analysis of RHBDL1 expression in rat brain (A) and mouse brain (B) tissue extracts.



RHBDL1 (D-20): sc-139041. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## RESEARCH USE

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

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Try **RHBDL1 (5B11): sc-517160**, our highly recommended monoclonal alternative to RHBDL1 (D-20).