

RHBDD1 Antibody

Catalog # ASC11032

Product Information

Application	WB, E
Primary Accession	Q8TEB9
Other Accession	AAI01265 , 71680537
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	35823
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	RHBDD1 antibody can be used for detection of RHBDD1 by Western blot at 1 μ g/mL.

Additional Information

Gene ID	84236
Other Names	Rhomboid-related protein 4, RRP4, 3.4.21.105, Rhomboid domain-containing protein 1, Rhomboid-like protein 4, RHBDD1, RHBDL4
Target/Specificity	RHBDD1;
Reconstitution & Storage	RHBDD1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	RHBDD1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RHBDD1
Synonyms	RHBDL4
Function	Intramembrane-cleaving serine protease that cleaves single transmembrane or multi-pass membrane proteins in the hydrophobic plane of the membrane, luminal loops and juxtamembrane regions. Involved in regulated intramembrane proteolysis and the subsequent release of functional polypeptides from their membrane anchors. Functional component of endoplasmic reticulum-associated degradation (ERAD) for misfolded membrane proteins. Required for the degradation process of some specific misfolded endoplasmic reticulum (ER) luminal proteins. Participates in the

transfer of misfolded proteins from the ER to the cytosol, where they are destroyed by the proteasome in a ubiquitin- dependent manner. Functions in BIK, MPZ, PKD1, PTCRA, RHO, STEAP3 and TRAC processing. Involved in the regulation of exosomal secretion; inhibits the TSAP6-mediated secretion pathway. Involved in the regulation of apoptosis; modulates BIK-mediated apoptotic activity. Also plays a role in the regulation of spermatogenesis; inhibits apoptotic activity in spermatogonia.

Cellular Location

Endoplasmic reticulum membrane; Multi-pass membrane protein.
Mitochondrion membrane; Multi-pass membrane protein

Tissue Location

Expressed strongly in testis.

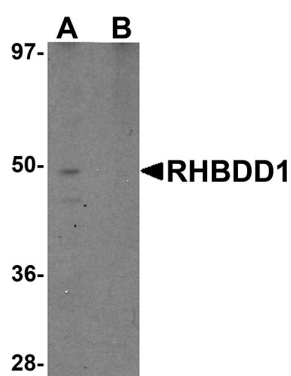
Background

RHBDD1 Antibody: The Rhomboid family of proteins is made up of several widely conserved polytopic membrane serine proteases that play roles in growth and development. RHBDD1 is highly expressed in the testis and is involved in the cleavage of BIK, a proapoptotic member of the Bcl-2 family. Overexpression or suppression by RNAi of RHBDD1 in 293 cells will reduce or enhance BIK-mediated apoptosis, respectively, demonstrating that RHBDD1 modulates BIK-mediated apoptotic activity. In GC-1 cells, a spermatogonia cell line that can differentiate into spermatids within the seminiferous tubules, suppression of RHBDD1 expression by RNAi caused the cells to lose the ability to survive and differentiate in mouse seminiferous tubules, suggesting that RHBDD1 may be associated with mammalian spermatogenesis.

References

Koonin EV, Makarova KS, Rogozin IB, et al. The rhomboids: a nearly ubiquitous family of intramembrane serine proteases that probably evolved by multiple horizontal gene transfers. *Genome Biol.*2003; 4:R19.
Wang Y, Guan X, Fok KL, et al. A novel member of the rhomboid family, RHBDD1, regulates BIK-mediated apoptosis. *Cell Mol. Life Sci.*2008; 65:3822-9.
Wang Y, Song W, Li S, et al. GC-1 mRHBDD1 knockdown spermatogonia cells lose their spermatogenic capacity in mouse seminiferous tubules. *BNC Cell Biol.*2009; 10:25.

Images



Western blot analysis of RHBDD1 in K562 cell lysate with RHBDD1 antibody at 1 µg/mL in (A) the absence and (B) the presence of blocking peptide.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.