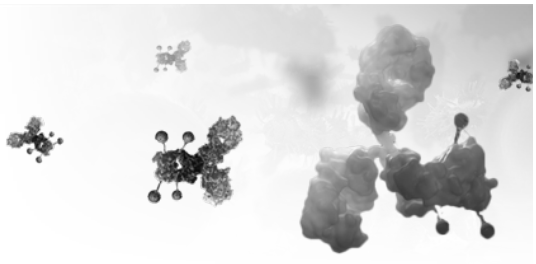

Anti-TMPRSS7 (cytoplasmic domain) polyclonal antibody (CABT-BL3631)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Immunogen	Synthetic peptide based on the cytoplasmic domain of Mouse Matriptase 3.
Isotype	IgG
Source/Host	Rabbit
Species Reactivity	Mouse, Rat, Dog, Chimpanzee
Purification	Immunogen affinity purified
Conjugate	Unconjugated
Applications	WB
Cellular Localization	Membrane; single-pass type II membrane protein
Format	Liquid
Buffer	50% Glycerol
Preservative	0.05% Sodium Azide
Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.

BACKGROUND

Introduction	Matriptase 3 is a Type-II serine proteinase, meaning it contains a transmembrane motif in the amino end of the protein. The extracellular domains contain a stem region, followed by a SEA domain, two CUB domains and three repeats of LDL-receptor-like homology, and a chymotrypsin-like serine protease domain located in the carboxyterminal end of the protein.

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Matriptase 3 is a member of the S1A family of the PA clan of serine proteinases, which includes acrosin, kallikreins, trypsin, chymotrypsin, and many other important enzymes. Matriptase 3 shares 31% sequence identity with matriptase 1 and matriptase 2. The canonical activation cleavage site of the transmembrane serine proteases is conserved in matriptase 3, and the zymogen is cleaved at R493-IIGG to produce the active enzyme. In humans and in the mouse, matriptase 3 is found in the brain, eye, testis, epididymus and salivary gland, with lower levels found in the heart, skeletal muscles, thymus, ovary and prostate. The endogenous inhibitor of matriptase 3 is thought to be HAI-1 (Hepatocyte Activator Inhibitor-1), a serine proteinase inhibitor that was determined to block the activation of HGF. Alpha-2 macroglobulin has also been shown to bind and inhibit matriptase 3 in-vitro. Similar to other transmembrane serine proteinases, several different splice variants have been identified, all with different aminoterminal regions. The different cytoplasmic domains are thought to give specificity in regulation for matriptase 3. The three forms identified to date include 731, 706 and 572 amino acid forms. The longest human matriptase 3 sequence codes for a protein of 731 amino acids, with a predicted mass of 81.74 kDa and a pI of 8.88. The matriptase 3 protein is glycosylated, and runs with an apparent molecular weight of approximately 90 kDa. The 706 amino acid version has a predicted mass of 78.7 kDa, with pI of 8.0, and the 572 amino acid form is 64.04 kDa and 9.08 pI. Interestingly, the human sequences are known to date are all shorter than the mouse, rat, dog and chimp sequences, and start after the putative transmembrane domain. It may be that the basic pI of the human matriptase 3 sequences allows it to dock to the ECM via HS-Gag interactions, since it is known that matriptase 3 associates with the plasma membrane, but more needs to be done to confirm this speculation.

GENE INFORMATION

Entrez Gene ID	208171
Protein Refseq	NP_766043
UniProt ID	Q8BIK6

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