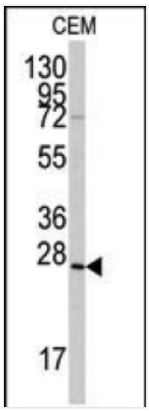
GREMLIN Antibody – Rabbit Polyclonal

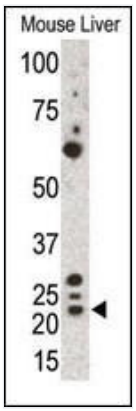
PRODUCT OVERVIEW

Product Name	GREMLIN, Polyclonal Antibody
Full Product Name	GREMLIN, CT (Grem1, Cktsf1b1, Drm, Gremlin-1, Cysteine knot superfamily 1, BMP antagonist 1, Down-regulated in Mos-transformed cells protein) (MaxLight 650)
Product Gene Name	anti-GREMLIN antibody
Product Synonym Gene Name	GREM1; Grem1
Product Synonym Names	Grem1; Cktsf1b1; Drm; Gremlin-1; Cysteine knot superfamily 1; BMP antagonist 1; Down-regulated in Mos-transformed cells protein
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with MaxLight650.
Purity/Purification	Purified by Protein A/G Affinity Chromatography.
Specificity	Recognizes human Gremlin. Species Crossreactivity: mouse
Preparation and Storage	Store product at 4 degree C in the dark. DO NOT FREEZE! Stable at 4 degree C for 12 months after receipt as an undiluted liquid. Dilute required amount only prior to immediate use. Further dilutions can be made in assay buffer. Caution: MaxLight650 conjugates are sensitive to light. For maximum recovery of product, centrifuge the original vial prior to removing the cap.
Molecular Weight	20,710 Da
3D Structure	ModBase 3D Structure for O70326
Immunogen	KLH-conjugated synthetic peptide mapping to a fragment of residues within amino acids 147-175 in the C-terminal region of human Gremlin, UniProt #O70326. Species sequence homology: rat
Conjugate	MaxLight650
Note	Preservative Free
Product Categories/Family for anti-GREMLIN antibody	Antibodies; Amino Acids
Applications Tested/Suitable for anti-GREMLIN antibody	Immunohistochemistry (IHC), Western Blot (WB), FLISA
Application Notes for anti-GREMLIN antibody	IHC: 1:50-1:100 WB: 1:1000 Applications are based on unconjugated antibody.
Related Product Information for anti-GREMLIN antibody	MBS6304302 is an antibody targeting GREMLIN. Also known as GREMLIN, CT (Grem1, Cktsf1b1, Drm, Gremlin-1, Cysteine knot superfamily 1, BMP antagonist 1, Down-regulated in Mos-transformed cells protein) (MaxLight 650). Reactive in Human, Mouse. Host: Rabbit.
Product References and Citations for anti-GREMLIN antibody	1. Chen, B., et al., J. Immunol. 173(10):5914-5917 (2004). 2. Chen, B., et al., Biochem. Biophys. Res. Commun. 295(5):1135-1141 (2002).3. McMahon, R., et al., J. Biol. Chem. 275(14):9901-9904 (2000). 4. Murphy, M., et al., J. Biol. Chem. 274(9):5830-5834 (1999). 5. Hsu, D.R., et al., Mol. Cell 1(5):673-683 (1998).

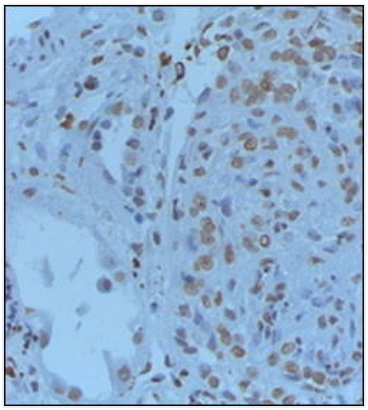
Other Notes	Small volumes of anti-GREMLIN antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.



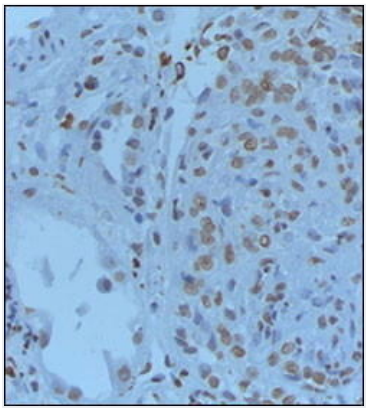
Western Blot (WB) of anti-GREMLIN antibody
Western Blot analysis in CEM cell line lysates (35ug/lane) usingMBS6001924. Gremlin (arrow) was detected using the purified Pab.



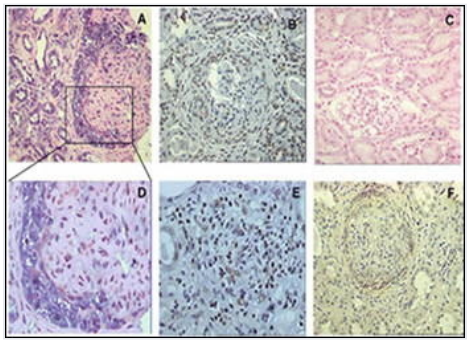
Western Blot (WB) of anti-GREMLIN antibody
Western Blot analysis in mouse liver cell lysate usingMBS6001924. Gremlin (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.



Immunohistochemistry (IHC) of anti-GREMLIN antibody
Formalin-PBS and Bouin embedded paraffin human renal tissue pretreated with heat induced epitope retrieval Citrate buffer pH 6.0 in microwave using MBS6001924 (1:50). Detection method was ABC system or Vectastaint Elite VECTOR. Data and protocol courtesy of Dr. Maria E. Burgos of Universidad Austral de Chile.



Immunohistochemistry (IHC) of anti-GREMLIN antibody
Immunohistochemistry analysis in formalin-fixed and paraffin-embedded human skeletal muscle tissue usingMBS6001924, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining.



Testing Data of anti-GREMLIN antibody
ISH and IMH demonstrating gremlin mRNA and gremlin protein in crescentic PECs and tubular epithelial cells of patients with pauci-immune crescentic GN usingMBS6001924. In comparison with normal renal tissue in which there is no expression of gremlin mRNA (C), proliferating PECs of glomerular crescents show a strong expression of gremlin mRNA by ISH (A); and gremlin protein expression by IMH (B); immune competent infiltrating interstitial cells are also strongly positive for gremlin staining (E); and CTGF was also expressed in these glomerular crescentic cells (F).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for GREMLIN. It may not necessarily be applicable to this product.

NCBI GI #	6754068
NCBI GeneID	23892
NCBI Accession #	NP_035954.1
UniProt Primary Accession #	O70326
UniProt Related Accession #	O70326
GenBank Nucleotide #	NM_011824.4
NCBI Official Full Name	gremlin-1
NCBI Official Synonym Full Names	gremlin 1, DAN family BMP antagonist
NCBI Official Symbol	Grem1
NCBI Official Synonym Symbols	ld; Drm; Grem; Cktsf1b1
UniProt Protein Name	Gremlin-1
UniProt Synonym Protein Names	Cysteine knot superfamily 1, BMP antagonist 1; Down-regulated in Mos-transformed cells protein
Protein Family	Gremlin
UniProt Gene Name	Grem1
UniProt Synonym Gene Names	Cktsf1b1; Drm
UniProt Entry Name	GREM1_MOUSE
NCBI Protein Information	gremlin-1
UniProt Comments for GREMLIN	GREM1: Cytokine that may play an important role during carcinogenesis and metanephric kidney organogenesis, as a BMP antagonist required for early limb outgrowth and patterning in maintaining the FGF4-SHH feedback loop. Down-regulates the BMP4 signaling in a dose-dependent manner. Acts as inhibitor of monocyte chemotaxis. Interacts with SLIT1 and SLIT2 in a glycosylation- dependent manner. By high glucose through TGFB1-mediated pathways in mesangial cell. Down-regulated in tumor cell lines. Highly expressed in small intestine, fetal brain and colon. Weakly expressed in brain, ovary, prostate, pancreas and skeletal muscle. In brain found in the region localized around the internal capsule in the large subcortical nuclei, including caudate, putamen, substantia nigra, thalamus and subthalamus. Predominantly expressed in normal cells including neurons, astrocytes and fibroblasts. Belongs to the DAN family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Secreted, signal peptide; Secreted Cellular Component: cell surface; extracellular region; extracellular space Molecular Function: cytokine activity; heparan sulfate proteoglycan binding; receptor agonist activity; transmembrane receptor protein tyrosine kinase activator activity; vascular endothelial growth factor receptor 2 binding Biological Process: activation of NF-kappaB transcription factor; angiogenesis; cell migration during sprouting angiogenesis; cell morphogenesis; cell-cell signaling; collagen fibril organization; determination of dorsal identity; embryonic limb morphogenesis; endothelial cell migration; limb development; negative regulation of apoptosis; negative regulation of BMP signaling pathway; negative regulation of bone mineralization; negative regulation of bone remodeling; negative regulation of cell growth; negative regulation of chondrocyte differentiation; negative regulation of leukocyte chemotaxis; negative regulation of osteoblast proliferation; negative regulation of transcription, DNA-dependent; organ morphogenesis; positive regulation of angiogenesis; positive regulation of cell proliferation; positive regulation of NF-kappaB import into nucleus; positive regulation of receptor internalization; positive regulation of telomerase activity; positive regulation of transcription from RNA polymerase II promoter; positive regulation of transcription, DNA-dependent; proximal/distal pattern formation; regulation of focal adhesion formation; regulation of stress-activated MAPK cascade; signal transduction; ureteric bud branching
Research Articles on GREMLIN	**1.** Gremlin/VEGFR2 axis participates in renal inflammation and could be a novel target for kidney disease.

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