10320 Camino Santa Fe, Suite G
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GREMLIN Antibody (C-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6133a

Specification

GREMLIN Antibody (C-term) - Product Information

Application	**IHC-P, WB,E**
Primary Accession	O70326
Other Accession	O35793, O60565
Reactivity	**Human, Mouse**
Predicted	**Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**147-175**

GREMLIN Antibody (C-term) - Additional Information

Gene ID 23892

Other Names
Gremlin-1, Cysteine knot superfamily 1, BMP antagonist 1, Down-regulated in Mos-transformed cells protein, Grem1, Cktsf1b1, Drm

Target/Specificity
This GREMLIN antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 147-175 amino acids from the C-terminal region of mouse GREMLIN.

Dilution
IHC-P~~1:50~100
WB~~1:2000
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
GREMLIN Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

GREMLIN Antibody (C-term) - Protein Information

Name Grem1

Synonyms Cktsf1b1, Drm

Function Cytokine that may play an important role during carcinogenesis and metanephric kidney organogenesis, as BMP a antagonist required for early limb outgrowth and patterning in maintaining the FGF4-SHH feedback loop (PubMed:12808456, PubMed:15201225). Down-regulates the BMP4 signaling in a dose-dependent manner (PubMed:15133038). Antagonist of BMP2; inhibits BMP2-mediated differentiation of osteoblasts (in vitro) (By similarity). Acts as inhibitor of monocyte chemotaxis (By similarity).

Cellular Location
Secreted.

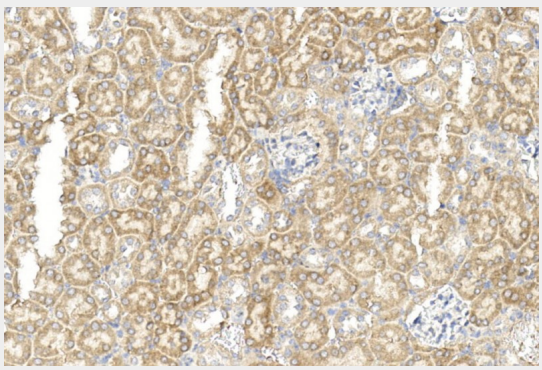
Tissue Location
Highly expressed in spleen and to a lesser extent in lung, skeletal muscle and kidney. Expressed only in non-transformed cells or primary fibroblasts in culture but not in established transformed or tumor derived cell lines. Broadly expressed in limb bud mesenchyme but restricted to the distal limb bud mesenchyme and concentrated posteriorly. Expressed in ovary especially in granulosa cells of follicles of type 4.

GREMLIN Antibody (C-term) - Protocols

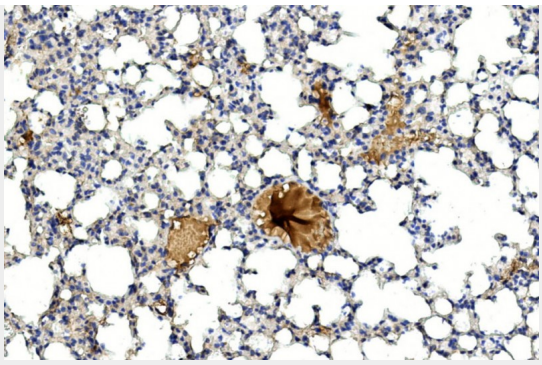
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

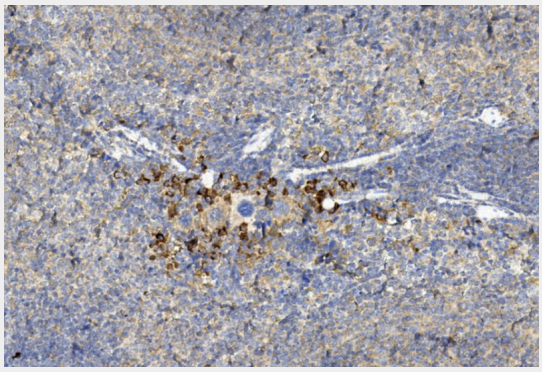
GREMLIN Antibody (C-term) - Images



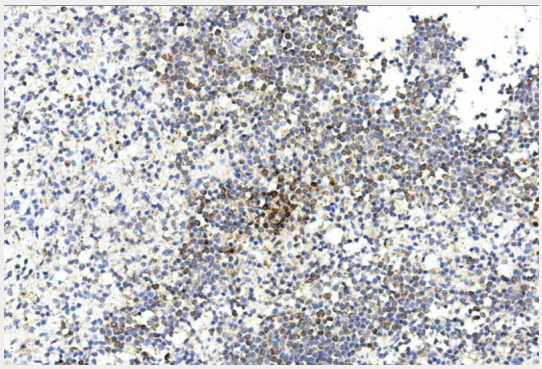
Immunohistochemical analysis of paraffin-embedded mouse kidney section using GREMLIN Antibody (C-term) (Cat#AP6133a). AP6133a was diluted at 1:400 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.



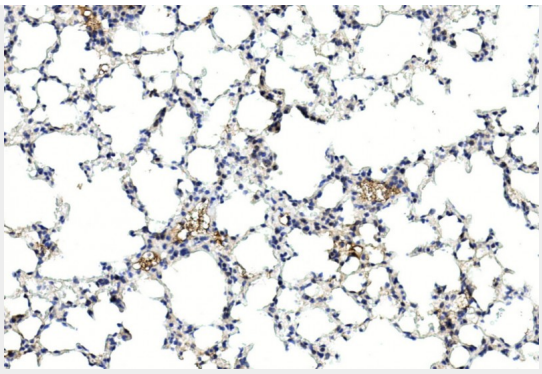
Immunohistochemical analysis of paraffin-embedded mouse lung section using GREMLIN Antibody (C-term) (Cat#AP6133a). AP6133a was diluted at 1:400 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.



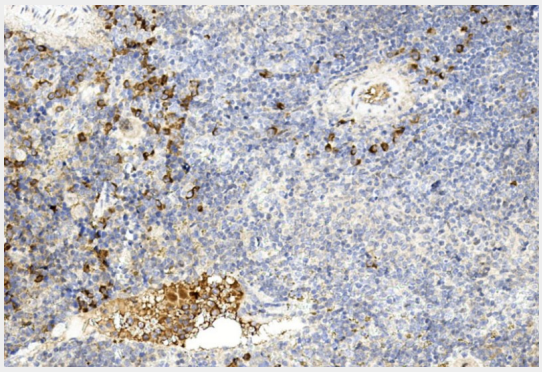
Immunohistochemical analysis of paraffin-embedded mouse spleen section using GREMLIN Antibody (C-term) (Cat#AP6133a). AP6133a was diluted at 1:400 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.



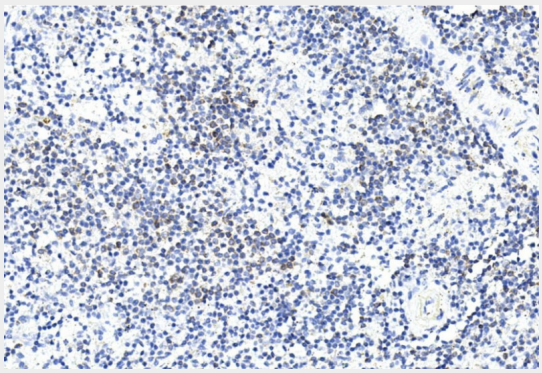
Immunohistochemical analysis of paraffin-embedded human spleen section using GREMLIN Antibody (C-term) (Cat#AP6133a). AP6133a was diluted at 1:400 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.



Immunohistochemical analysis of paraffin-embedded mouse lung section using GREMLIN Antibody (C-term) (Cat#AP6133a). AP6133a was diluted at 1:200 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.



Immunohistochemical analysis of paraffin-embedded mouse spleen section using GREMLIN Antibody (C-term) (Cat#AP6133a). AP6133a was diluted at 1:200 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.



Immunohistochemical analysis of paraffin-embedded human spleen section using GREMLIN Antibody (C-term) (Cat#AP6133a). AP6133a was diluted at 1:200 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.

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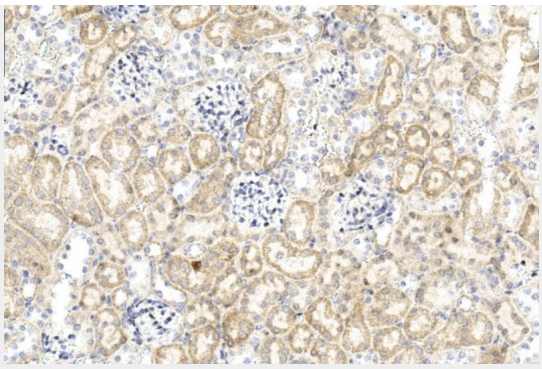
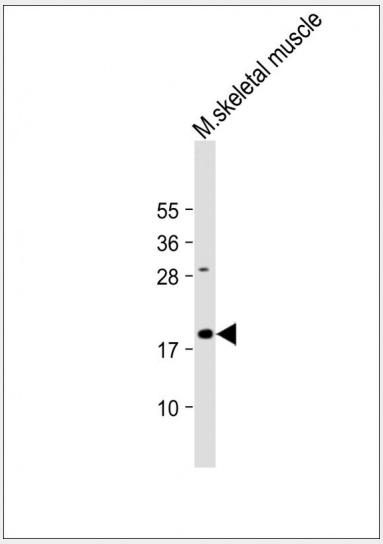
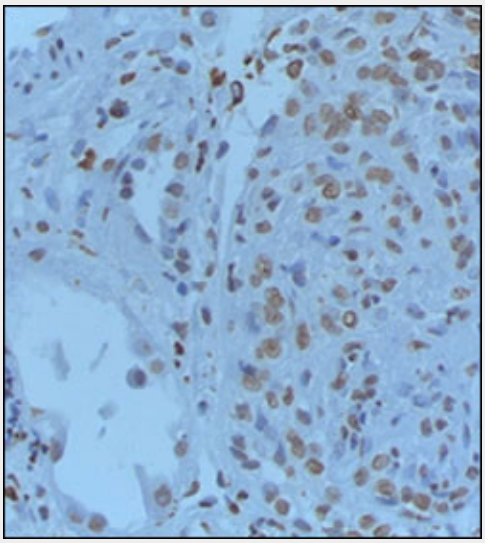


Immunohistochemical analysis of paraffin-embedded mouse kidney section using GREMLIN Antibody (C-term) (Cat#AP6133a). AP6133a was diluted at 1:200 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.

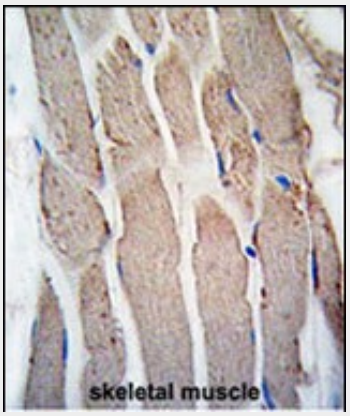


Anti-GREMLIN Antibody (C-term) at 1:2000 dilution + Mouse skeletal muscle lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 21 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

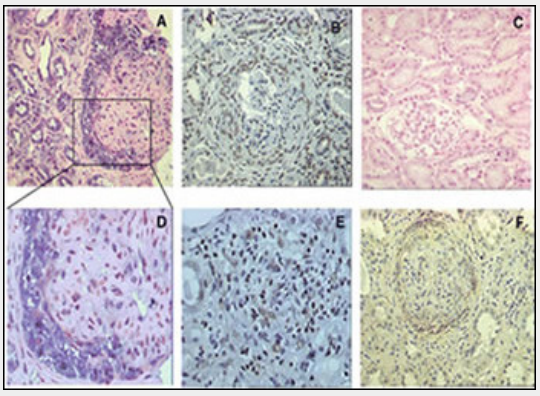


Formalin-PBS and Bouin embedded paraffin human renal tissue pretreated with heat induced epitope retrieval Citrate buffer pH 6.0 in microwave. Dilution of primary antibody was 1:50. Detection method was ABC system or Vectastaint Elite VECTOR. Data and protocol courtesy of Dr.

Maria E. Burgos of Universidad Austral de Chile.



Formalin-fixed and paraffin-embedded human skeletal muscle tissue reacted with GREMLIN Antibody (C-term) (Cat.#AP6133a), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



ISH and IMH demonstrating gremlin mRNA and gremlin protein in crescentic PECs and tubular epithelial cells of patients with pauci-immune crescentic GN. 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).

GREMLIN Antibody (C-term) - Background

GREMLIN is a member of the BMP (bone morphogenic protein) antagonist family. Like BMPs, BMP antagonists contain cystine knots and typically form homo- and heterodimers. The CAN (cerberus and dan) subfamily of BMP antagonists, to which this gene belongs, is characterized by a C-terminal cystine knot with an eight-membered ring. The antagonistic effect of the secreted glycosylated protein encoded by this gene is likely due to its direct binding to BMP proteins. As an antagonist of BMP, this gene may play a role in regulating organogenesis, body patterning, and tissue differentiation. In mouse, this protein has been shown to relay the sonic hedgehog (SHH) signal from the polarizing region to the apical ectodermal ridge during limb bud outgrowth.

GREMLIN Antibody (C-term) - References

Chen, B., et al., J. Immunol. 173(10):5914-5917 (2004). Chen, B., et al., Biochem. Biophys. Res. Commun. 295(5):1135-1141 (2002). McMahon, R., et al., J. Biol. Chem. 275(14):9901-9904 (2000). Murphy, M., et al., J. Biol. Chem. 274(9):5830-5834 (1999). Hsu, D.R., et al., Mol. Cell 1(5):673-683 (1998).

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GREMLIN Antibody (C-term) - Citations

- Gremlin activates the Notch pathway linked to renal inflammation.
- Gremlin is a key pro-fibrogenic factor in chronic pancreatitis.
- Tubular overexpression of gremlin induces renal damage susceptibility in mice.
- Identification of target genes of PAX3-FOXO1 in alveolar rhabdomyosarcoma.
- Molecular differentiation between osteophytic and articular cartilage--clues for a transient and permanent chondrocyte phenotype.
- Expression of gremlin, a bone morphogenetic protein antagonist,is associated with vascular calcification in uraemia.
- Gremlin: a novel mediator of epithelial mesenchymal transition and fibrosis in chronic allograft nephropathy.
- Expression of gremlin, a bone morphogenetic protein antagonist, in glomerular crescents of pauci-immune glomerulonephritis.
- Effects of TGF-beta2, BMP-4, and gremlin in the trabecular meshwork: implications for glaucoma.
- Regulation of myogenic progenitor proliferation in human fetal skeletal muscle by BMP4 and its antagonist Gremlin.
- Expression of gremlin, a bone morphogenetic protein antagonist, in human diabetic nephropathy.