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Anti-Gremlin 1 Picoband Antibody

Catalog # ABO12312

Product Information

Application	WB
Primary Accession	O60565
Host	Rabbit
Reactivity	Human, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Gremlin-1(GREM1) detection. Tested with WB in Human;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	26585
Other Names	Gremlin-1, Cell proliferation-inducing gene 2 protein, Cysteine knot superfamily 1, BMP antagonist 1, DAN domain family member 2, Down-regulated in Mos-transformed cells protein, Increased in high glucose protein 2, IHG-2, GREM1, CKTSF1B1, DAND2, DRM
Calculated MW	20697
Application Details	Western blot, 0.1-0.5 □g/ml, Rat, Human
Subcellular Localization	Secreted .
Tissue Specificity	Highly expressed in small intestine, fetal brain and colon. Expression is restricted to intestinal subepithelial myofibroblasts (ISEMFs) at the crypt base. In subjects with HMPS1, by contrast, GREM1 is expressed, not only in basal ISEMFs, but also at very high levels in epithelial cells (predominantly colonocytes), with expression extending most of the way up the sides of the crypt. 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. .
Source	Eukaryota
Protein Name	Gremlin-1
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Gremlin 1 (151-184aa TMMVTLNCPELQPPTKKKRVTRVKQCRCISIDLD), identical to the related mouse and rat sequences.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Protein Information

Name	GREM1
Synonyms	CKTSF1B1, DAND2, DRM
Function	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 (By similarity). Antagonist of BMP2; inhibits BMP2-mediated differentiation of osteoblasts (in vitro) (PubMed:27036124). Acts as inhibitor of monocyte chemotaxis. Can inhibit the growth or viability of normal cells but not transformed cells when is overexpressed (By similarity).
Cellular Location	Secreted.
Tissue Location	Highly expressed in small intestine, fetal brain and colon. Expression is restricted to intestinal subepithelial myofibroblasts (ISEMFs) at the crypt base. In subjects with HMPS1, by contrast, GREM1 is expressed, not only in basal ISEMFs, but also at very high levels in epithelial cells (predominantly colonocytes), with expression extending most of the way up the sides of the crypt. 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

Background

Gremlin, also known as Drm, is a highly conserved 20.7-kDa, 184 amino acid glycoprotein part of the DAN family and is a cysteine knot-secreted protein. Skeletal cells synthesize bone morphogenetic proteins (BMPs) and BMP antagonists. And Gremlin is expressed in osteoblasts and opposes BMP effects on osteoblastic differentiation and function in vitro. Gremlin 1 (GREM 1) is known for its antagonistic reaction with BMPs in the TGF beta signaling pathway. This gene inhibits BMP-2, BMP-4, and BMP-7. Inhibition by grem 1 of BMPs in mice allow the expression of fibroblast growth factors (FGFs) 4 and 8 and Sonic hedgehog (SHH) which are necessary for proper limb development. Gremlin 1 may play an oncogenic role especially in carcinomas of the uterine cervix, lung, ovary, kidney, breast, colon, pancreas, and sarcoma. Over-expressed gremlin 1 functions by interaction with YWHAH (Its binding site for gremlin 1 was located between residues 61-80 and gremlin 1 binding site for YWHAH was found to be located between residues 1-67). Therefore, Gremlin 1 and its binding protein YWHAH could be good targets for developing diagnostic and therapeutic strategies against human cancers.

Images

Anti- Gremlin 1 Picoband antibody, ABO12312, Western blottingAll lanes: Anti Gremlin 1 (ABO12312) at 0.5ug/mlWB: Rat Pancreas Tissue Lysate at 50ugPredicted bind size: 23KDObserved bind size: 23KD