Datasheet for ABIN1589732

GREM1 Protein

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Overview

Quantity:	50 µg
Target:	GREM1
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant

Product Details

Purpose:	Gremlin-1
Sequence:	MKKKGSQGAI PPPDKAQHND SEQTQSPQQP GSRNRGRGQG RGTAMPGEEV LESSQEALHV TERKYLKRDW CKTQPLKQTI HEEGCNSRTI INRFCYGQCN SFYIPRHIRK EEGSFQSCSF CKPKKFTTMM VTLNCPELQP PTKKKRVTRV KQCRCISIDL D
Specificity:	Chromosomal location:15q13.3
Characteristics:	Length (aa):161
Purity:	> 95 % by SDS-PAGE

Target Details

Target:	GREM1
Alternative Name:	Gremlin-1 (GREM1 Products)
Background:	Gremlin, also known as “Increased in High Glucose protein 2” (IHG2) and “Down regulated in Mos-transformed cells protein” (Drm), is a 28 kDa member of the Dan family of secreted glycoproteins. Native human Gremlin consist of 160 amino acids. The mature region contains

Target Details

	one potential site for N-linked glycosylation (Asn42), a cysteine-rich region, and a cysteine-knot motif (aa94-184) whose structure is shared by members of the TGFβ superfamily. Posttranslational modifications include glycosylation and phosphorylation (1-3). Human Gremlin exists in both secreted and membrane-associated forms and there exist 2 isoforms. The aa sequence identity of human Gremlin with mouse and chicken Gremlin is 99% and 86 %, respectively. Northern blot analysis shows that Gremlin mRNA is highly expressed in the small intestine, fetal brain and colon, and weakly expressed in adult brain, ovary, prostate, pancreas and skeletal muscle. Gremlin functions as a bone morphogenetic protein (BMP) antagonist. It acts by binding to, and forming heterodimers with, BMP2, BMP4, and BMP7, thus preventing them from interacting with their cell surface receptors. This mechanism is thought to be responsible for the pattern-inducing activity of Gremlin during embryonic development and to play a role in human diseases, such as diabetic nephropathy). However, intracellular BMP-independent mechanisms of action may mediate the ability of Gremlin to suppress transformation and tumor genesis under certain experimental conditions. Gremlin also interacts with Slit proteins and acts as an inhibitor of monocyte chemotaxis. In addition, Gremlin has been found to be a proangiogenic factor expressed by endothelium. Furthermore Gremlin is a novel agonist of the major proangiogenic receptor VEGFR2. Synonyms: GREM1, DRM, PIG2, DAND2, IHG-2, GREMLIN, CKTSF1B1, 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
Molecular Weight:	18.4 kDa
Gene ID:	26585
NCBI Accession:	NM_013372, NP_037504
UniProt:	O60565
Pathways:	Regulation of Muscle Cell Differentiation, Tube Formation, Maintenance of Protein Location

Application Details

Comment:	Cytokines & Growth Factors
Restrictions:	For Research Use only

Handling

Format:	Lyophilized

Handling

Reconstitution:	Human Grem1 should be reconstituted in 50 mM acetic acid or sterile water to a concentration of 0.1 mg/mL. This solution can be diluted in water or other buffer solutions or stored at -20 °C.
Buffer:	50 mM acetic acid
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	RT,0 °C
Storage Comment:	The lyophilized human Grem1, though stable at room temperature, is best stored desiccated below 0°C. Avoid repeated freeze-thaw cycles.