Recombinant Human/Bovine/Porcine GREM1 Protein

Cat. No. GREM1-19H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human/bovine/porcine Gremlin 1 protein without tag was expressed in E. coli. Animal-free (AOF) and carrier protein-free. Mass spectrometry: single species with expected mass. Analytical reversed-phase: single sharp peak. Recovery from stock vial: >95%
Species	Human
Source	E.coli
Description	This gene encodes 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. Alternatively spliced transcript variants encoding different isoforms have been found for this gene.
Molecular Mass	18 kDa

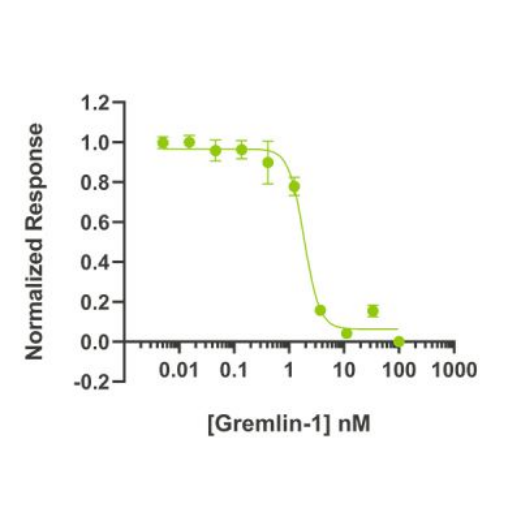
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Endotoxin	<0.005 EU/μg protein (below level of detection)
Applications	Human pluripotent Stem cell maintenance; Mesoderm Differentiation
Storage	Resuspend in 10mM HCl at >100 μg/mL, prepare single use aliquots, add carrier protein if desired and store frozen at -20 or -80 centigrade
Storage Buffer	Lyophilized from acetonitrile, TFA

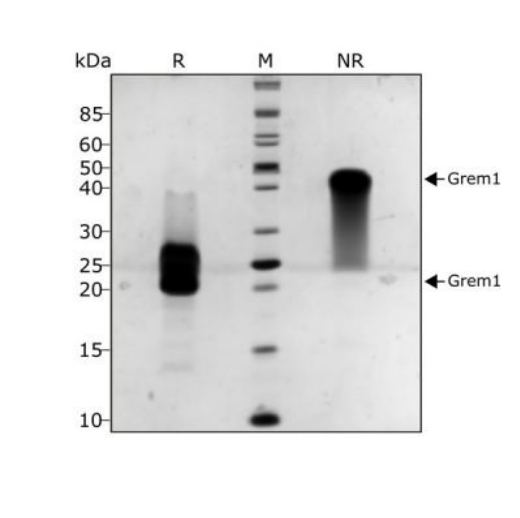
GENE INFORMATION

Gene Name	GREM1 gremlin 1, DAN family BMP antagonist [Homo sapiens (human)]
Official Symbol	GREM1
Synonyms	GREM1; gremlin 1, DAN family BMP antagonist; DRM; HMPS; MPSH; PIG2; CRAC1; CRCS4; DAND2; HMPS1; IHG-2; DUP15q; C15DUPq; GREMLIN; CKTSF1B1; gremlin-1; DAN domain family member 2; cell proliferation-inducing gene 2 protein; colorectal adenoma and carcinoma 1; cysteine knot superfamily 1, BMP antagonist 1; down-regulated in Mos-transformed cells protein; gremlin 1, cysteine knot superfamily, homolog; gremlin 1-like protein; hereditary mixed polyposis syndrome; increased in high glucose-2
Gene ID	26585
mRNA Refseq	NM_013372
Protein Refseq	NP_037504
MIM	603054

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UniProt ID	O60565
Bioactivity	 Gremlin-1 inhibits BMP-2 induced luciferase activity BRE-HEK293 luciferase reporter assay with an IC50 = 34 ng/mL (1.88 nM) Gremlin 1 activity is determined using inhibition of the BMP2 responsefrom a BMP2-responsive firefly luciferase reporter in stably transfected HEK293T cells. Cells are treatedwith a serial dilution of Gremlin 1 in BMP2 for 6 hours. Firefly luciferase activity is measured and normalized to the control Renilla luciferase activity.

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Purity	 Gremlin 1 protein migrates as a single diffuse band at ~36 kDa in non-reducingand 19 kDa in reducingconditions. The protein is a non-covalent dimer and it is the dissociation of the dimer during electrophoresis which gives the characteristic diffuse band. Purified recombinant protein was resolved using 15% w/v SDS-PAGE in reducedand non-reduced conditionsand stained with Coomassie Brilliant Blue R250.

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