Gem-Associated Protein 5 (GEMIN5) Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	Gem-associated protein 5 (GEMIN5), Recombinant Protein
Full Product Name	Recombinant Human Gem-associated protein 5 (GEMIN5) , partial
Product Gene Name	GEMIN5 recombinant protein
Product Synonym Gene Name	GEMIN5
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	168,589 Da
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
OMIM	607005
3D Structure	ModBase 3D Structure for Q8TEQ6
Species	Human
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for GEMIN5 recombinant protein	MBS1313907 is a recombinant protein targeting GEMIN5. Also known as Recombinant Human Gem-associated protein 5 (GEMIN5) , partial. Host: E Coli or Yeast or Baculovirus or Mammalian Cell.
Other Notes	Small volumes of GEMIN5 recombinant protein 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.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for GEMIN5. It may not necessarily be applicable to this product.

NCBI GI #	356461016
NCBI GeneID	25929
NCBI Accession #	NP_001239085.1
UniProt Primary Accession #	Q8TEQ6
UniProt Secondary Accession #	Q14CV0; Q8WWV4; Q969W4; Q9H9K3; Q9UFI5
UniProt Related Accession #	Q8TEQ6
GenBank Nucleotide #	NM_001252156.1

NCBI Official Full Name	gem-associated protein 5 isoform 2
NCBI Official Synonym Full Names	gem nuclear organelle associated protein 5
NCBI Official Symbol	GEMIN5
NCBI Official Synonym Symbols	GEMIN-5
UniProt Protein Name	Gem-associated protein 5
Protein Family	Component of gems protein
UniProt Gene Name	GEMIN5
UniProt Synonym Gene Names	Gemin5
NCBI Protein Information	gem-associated protein 5
NCBI Summary for GEMIN5	This gene encodes a WD repeat protein that is a component of the survival of motor neurons (SMN) complex. The SMN complex plays a critical role in mRNA splicing through the assembly of spliceosomal small nuclear ribonucleoproteins (snRNPs), and may also mediate the assembly and transport of other classes of ribonucleoproteins. The encoded protein is the snRNA-binding component of the SMN complex. Dysregulation of this gene may play a role in alternative mRNA splicing and tumor cell motility. Alternatively spliced transcript variants encoding multiple isoforms have been observed for this gene. [provided by RefSeq, Nov 2011]
UniProt Comments for GEMIN5	Required for the assembly of the SMN complex that plays a catalyst role in the assembly of small nuclear ribonucleoproteins (snRNPs), the building blocks of the spliceosome (PubMed:16857593, PubMed:18984161, PubMed:20513430). Thereby, plays an important role in the splicing of cellular pre-mRNAs. Most spliceosomal snRNPs contain a common set of Sm proteins SNRPB, SNRPD1, SNRPD2, SNRPD3, SNRPE, SNRPF and SNRPG that assemble in a heptameric protein ring on the Sm site of the small nuclear RNA to form the core snRNP. In the cytosol, the Sm proteins SNRPD1, SNRPD2, SNRPE, SNRPF and SNRPG are trapped in an inactive 6S pICln-Sm complex by the chaperone CLNS1A that controls the assembly of the core snRNP (PubMed:18984161). Dissociation by the SMN complex of CLNS1A from the trapped Sm proteins and their transfer to an SMN-Sm complex triggers the assembly of core snRNPs and their transport to the nucleus (PubMed:18984161). GEMIN5 acts as the snRNA-binding protein of the SMN complex (PubMed:11714716, PubMed:16857593, PubMed:19377484, PubMed:19750007, PubMed:20513430, PubMed:27834343, PubMed:27881600, PubMed:27881601). Binds to the 7-methylguanosine cap of RNA molecules (PubMed:19750007, PubMed:27834343, PubMed:27881600, PubMed:27881601, Ref. 25). Binds to the 3'-UTR of SMN1 mRNA and regulates its translation; does not affect mRNA stability (PubMed:25911097). May play a role in the regulation of protein synthesis via its interaction with ribosomes (PubMed:27507887).
Research Articles on GEMIN5	**1.** provide mechanistic understandings of Gemin5's snRNA-binding specificity as well as valuable insights into the molecular mechanism of RNA binding by WD40 repeat proteins in general.
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