Grainyhead-Like Protein 3 Homolog (GRHL3) Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	Grainyhead-like protein 3 homolog (GRHL3), Recombinant Protein
Full Product Name	Recombinant Human Grainyhead-like protein 3 homolog (GRHL3)
Product Gene Name	GRHL3 recombinant protein
Product Synonym Gene Name	GRHL3
Sequence	MSNELDFRSV RLLKNDPVNL QKFSYTSEDE AWKTYLENPL TAATKAMMRV NGDDDSVAAL SFLYDYYMGP KEKRILSSST GGRNDQGKRY YHGMEYETDL TPLESPTHLM KFLTENVSGT PEYPDLLKKN NLMSLEGALP TPGKAAPLPA GPSKLEAGSV DSYLLPTTDM YDNGSLNSLF ESIHGVPPTQ RWQPDSTFKD DPQESMLFPD ILKTSPEPPC PEDYPSLKSD FEYTLGSPKA IHIKSGESPM AYLNKGQFYP VTLRTPAGGK GLALSSNKVK SVVMVVFDNE KVPVEQLRFW KHWHSRQPTA KQRVIDVADC KENFNTVEHI EEVAYNALSF VWNVNEEAKV FIGVNCLSTD FSSQKGVKGV PLNLQIDTYD CGLGTERLVH RAVCQIKIFC DKGAERKMRD DERKQFRRKV KCPDSSNSGV KGCLLSGFRG NETTYLRPET DLETPPVLFI PNVHFSSLQR SGGAAPSAGP SSSNRLPLKR TCSPFTEEFE PLPSKQAKEG DLQRVLLYVR RETEEVFDAL MLKTPDLKGL RNAISEKYGF PEENIYKVYK KCKRGETSLL HPRLSRHPPP DCLECSHPVT QVRNMGFGDG FWRQRDLDSN PSPTTVNSLH FTVNSE
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	67,696 Da
Sequence Positions	1-626, Full length protein
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	606713
3D Structure	ModBase 3D Structure for Q8TE85
Species	Human
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for GRHL3 recombinant protein	This gene encodes a member of the grainyhead family of transcription factors. The encoded protein interacts with leader-binding protein 32 (LBP-32) and brother of mammalian grainyhead (BOM), and may function as a transcription factor during development. Multiple transcript variants encoding distinct isoforms have been identified for this gene. Additional transcript variants have been described, but their biological nature has not been determined.
Other Notes	Small volumes of GRHL3 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.
Searchable Terms for GRHL3 purchase	MBS1420058 is a recombinant protein targeting GRHL3. Also known as Recombinant Human Grainyhead-like protein 3 homolog (GRHL3). Host: E Coli or Yeast or Baculovirus or Mammalian Cell.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for GRHL3. It may not necessarily be applicable to this product.

NCBI GI #	303324555
NCBI GeneID	57822
NCBI Accession #	NP_001181939.1
UniProt Primary Accession #	Q8TE85
UniProt Secondary Accession #	Q5TH78; Q86Y06; Q8N407; A2A297; B2RCL1; G3XAF0
UniProt Related Accession #	Q8TE85
GenBank Nucleotide #	NM_001195010.1
NCBI Official Full Name	grainyhead-like protein 3 homolog isoform 4
NCBI Official Synonym Full Names	grainyhead like transcription factor 3
NCBI Official Symbol	GRHL3
NCBI Official Synonym Symbols	SOM; VWS2; TFCP2L4
UniProt Protein Name	Grainyhead-like protein 3 homolog
UniProt Synonym Protein Names	Sister of mammalian grainyhead; Transcription factor CP2-like 4
Protein Family	Grainyhead-like protein
UniProt Gene Name	GRHL3
NCBI Protein Information	grainyhead-like protein 3 homolog
NCBI Summary for GRHL3	This gene encodes a member of the grainyhead family of transcription factors. The encoded protein may function as a transcription factor during development, and has been shown to stimulate migration of endothelial cells. Multiple transcript variants encoding distinct isoforms have been identified for this gene.[provided by RefSeq, Aug 2010]
UniProt Comments for GRHL3	Transcription factor playing important roles in primary neurulation and in the differentiation of stratified epithelia of both ectodermal and endodermal origin (). Binds directly to the consensus DNA sequence 5'-AACCGGTT-3' acting as an activator and repressor on distinct target genes (PubMed:21081122, PubMed:25347468). xhibits functional redundancy with GRHL2 in epidermal morphogenetic events and epidermal wound repair (). Exhibits functional redundancy with GRHL2 in epidermal morphogenetic events and epidermal wound repair but is essential to form the epidermal barrier with TGM3 as critical direct target gene among others. Despite being dispensable during normal epidermal homeostasis in the adulthood, is again required for barrier repair after immune-mediated epidermal damage, regulates distinct gene batteries in embryonic epidermal differentiation and adult epidermal barrier reformation after injury. Plays unique and cooperative roles with GRHL2 in establishing distinct zones of primary neurulation. Essential for spinal closure, functions cooperatively with GRHL2 in closure 2 (forebrain/midbrain boundary) and posterior neuropore closure (). Also required for proper development of the oral periderm (PubMed:24360809). No genetic interaction with GRHL3, no functional cooperativity due to diverse target gene selectivity (PubMed:21081122).
Research Articles on GRHL3	**1.** Comparison of the variant rate between our cohort and the ExAC database identified a significant enrichment of deleterious variants in GRHL3 in the whole gene and the transactivation region in spina bifida patients. These data provide strong evidence for a role of GRHL3 as a predisposing factor to spina bifida and will help dissect the complex etiology and pathogenic mechanisms of these malformations
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