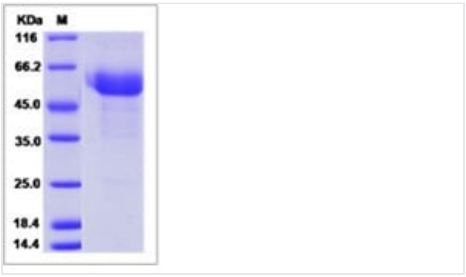
HAI-2/SPINT2 (SPINT2) Active Protein

PRODUCT OVERVIEW

Product Name	HAI-2/SPINT2, Active Protein
Full Product Name	HAI-2/SPINT2 Protein, Human, Recombinant (ECD, hFc Tag)
Product Gene Name	SPINT2 active protein
Product Synonym Names	Human HAI-2/SPINT2 Protein (ECD, Fc Tag); DIAR3 Protein, Human; HAI-2 Protein, Human; HAI2 Protein, Human; Kop Protein, Human; PB Protein, Human; serine peptidase inhibitor, Kunitz type, 2
Sequence	Met1-Lys19 7
Host	HEK293 Cells
Form/Format	Lyophilized from sterile PBS, pH7.4. Normally 5%-8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hard copy of CoA.
Purity/Purification	>90% as determined by SDS-PAGE
Preparation and Storage	Samples are stable for up to twelve months from date of receipt at -20 degree C to -80 degree C. Store it under sterile conditions at -20 degree C to -80 degree C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice.
Molecular Weight	21,828 Da
OMIM	270420
3D Structure	ModBase 3D Structure for O43291
Active Protein Note	Protein activity can be an ambiguous term. Please refer to the data sheet or inquire with Technical Support to determine the definition of activity for this product.
Species	Human
Activity	Measured by its ability to inhibit trypsin cleavage of a fluorogenic peptide substrate, Mca-Arg-Pro-Lys-Pro-Val-Glu-NVAL-Trp-Arg-Lys(DNP)-NH2. The IC50 value is <1nM.
Endotoxin	<1.0EU per ug protein as determined by the LAL method.
Predicted N Terminal	Ala 28
Tag	C-human IgG1-Fc
Protein Construction	A DNA sequence encoding the human SPINT2 (NP_066925.1)(Met1-Lys197) was expressed with the Fc region of human IgG1 at the C-terminus.
Reconstitution	A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.
Product Categories/Family for SPINT2 active protein	Serine Proteases and Regulators

Related Product Information for SPINT2 active protein	Background: Choanal (CA) and gastrointestinal atresias (GA) are an important feature of syndromic congenital sodium diarrhea (sCSD), a disorder recently associated with mutations in the gene for serine protease inhibitor type 2 (SPINT2). The SPINT2 gene is epigenetically silenced or downregulated in human cancers, altering the balance of HGF activation/inhibition ratio, which contributes to cancer development and progression. SPINT2 is a tumor suppressor gene that inhibits proteases implicated in cancer progression, like HGFA, hepsin and matriptase. Loss of SPINT2 expression in tumors has been associated with gene promoter hypermethylation. SPINT2 (serine peptidase inhibitor Kunitz type 2), a proteolytic inhibitor of hepatocyte growth factor activator (HGFA), has a significant role in the suppression of the HGF-MET pathway and malignant melanoma progression.
Other Notes	Small volumes of SPINT2 active 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 SPINT2 purchase	MBS8120189 is an active protein targeting SPINT2. Also known as HAI-2/SPINT2 Protein, Human, Recombinant (ECD, hFc Tag). Host: HEK293 Cells.



SDS-Page of SPINT2 active protein

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for SPINT2. It may not necessarily be applicable to this product.

NCBI GI #	10863909
NCBI GeneID	10653
NCBI Accession #	NP_066925.1
UniProt Primary Accession #	O43291
UniProt Secondary Accession #	O00271; O14895; Q5TZQ3; Q969E0; A8K667; B4DLU1
UniProt Related Accession #	O43291
GenBank Nucleotide #	NM_021102.3
NCBI Official Full Name	kunitz-type protease inhibitor 2 isoform a
NCBI Official Synonym Full Names	serine peptidase inhibitor, Kunitz type, 2
NCBI Official Symbol	SPINT2
NCBI Official Synonym Symbols	PB; Kop; HAI2; DIAR3; HAI-2
UniProt Protein Name	Kunitz-type protease inhibitor 2
UniProt Synonym Protein Names	Hepatocyte growth factor activator inhibitor type 2; HAI-2; Placental bikunin
Protein Family	Kunitz-type protease inhibitor
UniProt Gene Name	SPINT2
UniProt Synonym Gene Names	HAI2; KOP; HAI-2
UniProt Entry Name	SPIT2_HUMAN
NCBI Protein Information	kunitz-type protease inhibitor 2; placental bikunin; serine protease inhibitor, Kunitz type, 2; hepatocyte growth factor activator inhibitor type 2

NCBI Summary for SPINT2	This gene encodes a transmembrane protein with two extracellular Kunitz domains that inhibits a variety of serine proteases. The protein inhibits HGF activator which prevents the formation of active hepatocyte growth factor. This gene is a putative tumor suppressor, and mutations in this gene result in congenital sodium diarrhea. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Oct 2009]
UniProt Comments for SPINT2	SPINT2: Inhibitor of HGF activator. Also inhibits plasmin, plasma and tissue kallikrein, and factor XIa. Defects in SPINT2 are the cause of diarrhea type 3 (DIAR3); also known as congenital sodium diarrhea (CSD). DIAR3 is a rare, inherited diarrhea of infancy. A diagnosis of DIAR3 is made on the findings of a life-threatening secretory diarrhea, severe metabolic acidosis, and hyponatremia secondary to extraordinarily high fecal losses of sodium, with low or normal excretion of urinary sodium, in the absence of infectious, autoimmune, and endocrine causes. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Inhibitor; Membrane protein, integral Chromosomal Location of Human Ortholog: 19q13.1 Cellular Component: cytoplasm; extracellular region Molecular Function: endopeptidase inhibitor activity; serine-type endopeptidase inhibitor activity Biological Process: cell motility; negative regulation of cell-cell adhesion Disease: Diarrhea 3, Secretory Sodium, Congenital, With Or Without Other Congenital Anomalies
Research Articles on SPINT2	**1.** results suggest that the SPINT2 underexpression in the MSC from MDS patients is probably involved in the adhesion of progenitors to the bone marrow niche, through an increased HGF and SDF-1 signaling pathway.
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