S100A13 Recombinant Protein

PRODUCT OVERVIEW

Product Name	S100A13, Recombinant Protein
Full Product Name	S100A13 Protein, Human, Recombinant
Product Gene Name	S100A13 recombinant protein
Product Synonym Names	Human S100A13 Protein; OTTHUMP00000034802 Protein, Human; protein S100-A13 Protein, Human; S100 calcium-binding protein A13 Protein, Human; S100 calcium binding protein A13
Sequence	Met1-Lys98
Host	E Coli
Form/Format	Lyophilized from sterile 20mM Tris, 100mM NaCl, pH8.0. 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	>98% 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	11,471 Da
OMIM	601989
3D Structure	ModBase 3D Structure for Q99584
Species	Human
Predicted N Terminal	Met 1
Tag	Native
Protein Construction	A DNA sequence encoding the native human S100A13 (NP_001019381.1)(Met 1-Lys 98) was expressed.
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 S100A13 recombinant protein	Calcium-binding Proteins and Related Molecules
Related Product Information for S100A13 recombinant protein	Background: S100 protein is a family of low molecular weight protein found in vertebrates characterized by two EF-hand calcium-binding motifs. There are at least 21 different S100 proteins, and the name is derived from the fact that the protein is 100% soluble in ammonium sulfate at neutral pH. Most S100 proteins are disulfide-linked homodimer, and is normally present in cells derived from theneural crest, chondrocytes, macrophages, dendritic cells, etc. S100 proteins have been implicated in a variety of intracellular and extracellular functions. They are involved in regulation of protein phosphorylation, transcription factors, the dynamics of cytoskeleton constituents, enzyme activities, cell growth and differentiation, and the inflammatory response. Protein S100-A13, also known as S100 calciumbinding protein A13, is a member of the S-100 family. It contains two EF-hand domains. S100A13 binds two calcium ions per subunit and one copper ion. Binding of one copper ion does not interfere with calcium-binding. S100A13 is required for the copper-dependent stress-induced export of IL1A and FGF1. The calcium-free protein binds to lipid vesicles containing phosphatidylserine, but not to vesicles containing phosphatidylcholine. S100A13 plays a role in the export of proteins that lack a signal peptide and are secreted by an alternative pathway.

Product References and Citations for S100A13 recombinant protein	Mandinova A. et al., 2003, J Cell Sci. 116: 2687-96. Arnesano F. et al., 2005, Angew Chem Int Ed. 44: 6341-4. Viemann D. et al., 2005, Blood. 105: 2955-62. Nakatani Y. et al., 2005, Mediators Inflamm. 2005: 280-92. Bjoerk P. et al., 2009, PLoS Biol. 7: E97-E97.
Other Notes	Small volumes of S100A13 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 S100A13 purchase	MBS8120616 is a recombinant protein targeting S100A13. Also known as S100A13 Protein, Human, Recombinant. Host: E Coli.



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ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for S100A13. It may not necessarily be applicable to this product.

NCBI GI #	66737368
NCBI GeneID	6284
NCBI Accession #	NP_001019381.1
UniProt Primary Accession #	Q99584
UniProt Secondary Accession #	Q52PI9; Q6FGF8
UniProt Related Accession #	Q99584
GenBank Nucleotide #	NM_001024210.1
NCBI Official Full Name	protein S100-A13
NCBI Official Synonym Full Names	S100 calcium binding protein A13
NCBI Official Symbol	S100A13
UniProt Protein Name	Protein S100-A13
UniProt Synonym Protein Names	S100 calcium-binding protein A13
Protein Family	Protein
UniProt Gene Name	S100A13
UniProt Entry Name	S10AD_HUMAN
NCBI Protein Information	protein S100-A13; S100 calcium-binding protein A13
NCBI Summary for S100A13	The protein encoded by this gene is a member of the S100 family of proteins containing 2 EF-hand calcium-binding motifs. S100 proteins are localized in the cytoplasm and/or nucleus of a wide range of cells, and involved in the regulation of a number of cellular processes such as cell cycle progression and differentiation. S100 genes include at least 13 members which are located as a cluster on chromosome 1q21. This protein is widely expressed in various types of tissues with a high expression level in thyroid gland. In smooth muscle cells, this protein co-expresses with other family members in the nucleus and in stress fibers, suggesting diverse functions in signal transduction. Multiple alternatively spliced transcript variants encoding the same protein have been found for this gene. [provided by RefSeq, Jul 2008]

UniProt Comments for S100A13	S100A13: Plays a role in the export of proteins that lack a signal peptide and are secreted by an alternative pathway. Binds two calcium ions per subunit. Binds one copper ion. Binding of one copper ion does not interfere with calcium binding. Required for the copper-dependent stress-induced export of IL1A and FGF1. The calcium-free protein binds to lipid vesicles containing phosphatidylserine, but not to vesicles containing phosphatidylcholine. Belongs to the S-100 family. Chromosomal Location of Human Ortholog: 1q21 Cellular Component: extracellular space; mast cell granule; perinuclear region of cytoplasm; cytoplasm; nucleus; cytosol Molecular Function: protein binding; RAGE receptor binding; fibroblast growth factor binding; copper ion binding; protein homodimerization activity; zinc ion binding; calcium ion binding; lipid binding Biological Process: regulation of cell shape; positive regulation of I-kappaB kinase/NF-kappaB cascade; response to copper ion; interleukin-1 alpha secretion; positive regulation of cell proliferation; mast cell degranulation; response to electrical stimulus; cytokine secretion
Research Articles on S100A13	**1.** S100A13 interacts with the C2 domain of RAGE.
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