

Mouse MCPT1 Protein (His Tag)

Catalog Number: 50220-M08H



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

AV080368; Mcp-1

Protein Construction:

A DNA sequence encoding the mouse MCPT1 (NP_032596.1) (Met 1-Lys 246) was expressed with a polyhistidine tag at the C-terminus.

Source: Mouse

Expression Host: HEK293 Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per μ g of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Glu 19

Molecular Mass:

The secreted recombinant mouse MCPT1 consists of 239 amino acids and has a predicted molecular mass of 26.8 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rm MCPT1 is approximately 32-34 kDa due to glycosylation.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

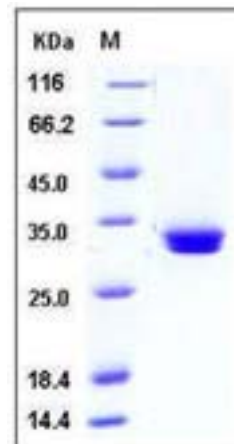
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Mast Cell Protease 1 (MMCP-1), also known as MCP-1, MCPT-1 and β -chymase, is a member of the Chymase family of chymotrypsin-like serine proteases. MCPT-1 is a 26 kDa β -chymase that is a component of mast cell granules. It is a 226 amino acid (aa) protein that has a conserved pattern of six cysteines and one potential glycosylation site. The granule-derived mouse mast cell proteases-1 and -2 (mMCP-1 and -2) colocalize in similar quantities in mucosal mast cells but micrograms of mMCP-1 compared with nanograms of mMCP-2 are detected in peripheral blood during intestinal nematode infection. mMCP-1 isolated from serum is complexed with serpins and both the accumulation and the longevity of mMCP-1 in blood is due to complex formation, protecting it from a pathway that rapidly clears mMCP-2, which is unable to form complexes with serpins. The mucosal mast cell (MMC) granule-specific beta-chymase, mouse mast cell protease-1 (mMCP-1), is released systemically into the bloodstream early in nematode infection before parasite-specific IgE responses develop and TGF- β 1 induces constitutive release of mMCP-1 by homologues of MMC in vitro. Expression of mMCP-1 is largely restricted to intraepithelial MMC and is thought to play a role in the regulation of epithelial permeability. Its activation is completed by the removal of a two residue N-terminal propeptide by a dipeptidyl peptidase (Cathepsin C). MCPT-1 is upregulated in the intestine in response to nematode infection, or in systemic mucosa in response to anaphylaxis. Like human α -chymase, MCPT-1 is capable of the conversion of angiotensin I to angiotensin II, which plays a key role in the regulation of arterial pressure. The intestinal inflammation associated with gastrointestinal helminths is partly mediated by mMCP-1.

References

1. Pemberton AD, *et al.* (2003) Purification and characterization of mouse mast cell proteinase-2 and the differential expression and release of mouse mast cell proteinase-1 and -2 in vivo. *Clin Exp Allergy*. 33(7): 1005-12.
2. Brown JK, *et al.* (2003) Constitutive secretion of the granule chymase mouse mast cell protease-1 and the chemokine, CCL2, by mucosal mast cell homologues. *Clin Exp Allergy*. 33(1): 132-46.
3. Lawrence CE, *et al.* (2004) Mouse mast cell protease-1 is required for the enteropathy induced by gastrointestinal helminth infection in the mouse. *Gastroenterology*. 127(1): 155-65.

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