



Recombinant Protein Technical Manual

Recombinant Mouse MCPT1 Protein (His Tag)

RPES3755

Product Data:

Product SKU: RPES3755

Size: 10µg

Species: Mouse

Expression host: HEK293 Cells

Uniprot: NP_032596.1

Protein Information:

Molecular Mass: 26.8 kDa

AP Molecular Mass: 32-34 kDa

Tag: C-His

Bio-activity:

Purity: > 97 % as determined by SDS-PAGE

Endotoxin: < 1.0 EU per µg of the protein as determined by the LAL method.

Storage: Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

Shipping: This product is provided as lyophilized powder which is shipped with ice packs.

Formulation: Lyophilized from sterile PBS, pH 7.4

Reconstitution: Please refer to the printed manual for detailed information.

Application:

Synonyms: AV080368;Mcp

Immunogen Information:

Sequence: Met 1-Lys 246

Background:

Mast Cell Protease 1 (MMCP), also known as MCP, MCPT and β -chymase, is a member of the Chymase family of chymotrypsin-like serine proteases. MCPT 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 and -2 (mMCP and -2) colocalize in similar quantities in mucosal mast cells but micrograms of mMCP compared with nanograms of mMCP-2 are detected in peripheral blood during intestinal nematode infection. mMCP isolated from serum is complexed with serpins and both the accumulation and the longevity of mMCP 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 (mMCP), is released systemically into the bloodstream early in nematode infection before parasite-specific IgE responses develop and TGF-beta1 induces constitutive release of mMCP by homologues of MMC in vitro. Expression of mMCP 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 is upregulated in the intestine in response to nematode infection, or in systemic mucosa in response to anaphylaxis. Like human α -chymase, MCPT 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.