Data Sheet (Cat.No.TMAY-03181)

Anti-Mast Cell Protease-1/MCPT-1 Antibody (8U785)

Product Details

Ig Type:	Rabbit IgG
Reactivity:	Mouse
Conjugation:	Unconjugated
Clone:	8U785
Purification:	Protein A

Applications

Application:	ELISA
Recommended	ELISA: 1:5000-1:10000

Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles. Preservative-Free.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	Recombinant Protein: Mouse MCPT1 protein (TMPY-01027)
Antigen Species:	Mouse
Synonyms:	AV080368;carnitine palmitoyltransferase 1B (muscle);Mcp-1

Research Background

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 the 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-beta1 induces the constitutive release of mMCP-1 by homologs 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 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.

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