
Anti-Mouse MCPT-1 (mMCP-1) Purified

Catalog Number: 14-5503

Also known as: Mast cell protease-1

RUO: For Research Use Only. Not for use in diagnostic procedures.

Product Information

Contents: Anti-Mouse MCPT-1 (mMCP-1)
Purified

 **Catalog Number:** 14-5503

Clone: RF6.1

Concentration: 0.5 mg/mL

Host/Isotype: Rat IgG1

Formulation: aqueous buffer, 0.09% sodium azide, may contain carrier protein/stabilizer
Temperature Limitation: Store at 2-8°C.



LOT



Batch Code: Refer to vial

Use By: Refer to vial

Description

The monoclonal antibody RF6 recognized MCPT-1 (Mast Cell Protease-1) which is a β -chymase, a type of serine protease stored and secreted in a tissue-specific manner by mucosal mast cells. MCPT-1 is a chymotryptic protease, referring to its ability to cleave proteins and peptides after an aromatic amino acid. It shares 74% sequence homology with its rat counterpart, rat Mast Cell Protease-II (rMCP-II) and has no direct human counterpart.

MCPT-1 is the only chymase expressed by intestinal mucosal mast cells, which are found in the intestinal epithelium. Although it is expressed constitutively and is detectable in the sera of normal mice, parasites in the gut cause systemic levels to increase dramatically within two days and peak at two weeks following infection. It plays an important role in host defense against intestinal parasites, as mice deficient in MCPT-1 display delayed response upon infection. Elevated MCPT-1 levels are also observed during intestinal allergic hypersensitivity reactions. The mechanism of its action is not fully understood, although it is believed to increase intestinal permeability similarly to rMCP-II, possibly by cleaving the proteins at tight junctions between cells.

Applications Reported

This RF6 antibody has been reported for use in immunocytochemistry and ELISA.

Applications Tested

This RF6 antibody has been tested by ELISA. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

References

Caughey GH. Mast cell tryptases and chymases in inflammation and host defense. *Immunol Rev.* 2007 Jun; 217: 141-154.

Knight PA, Wright SH, Lawrence CE, Paterson YY, Miller HR. Delayed expulsion of the nematode *Trichinella spiralis* in mice lacking the mucosal mast cell-specific granule chymase, mouse mast cell protease-1. *J Exp Med.* 2000 Dec 18; 192(12): 1849-56.

Miller HRP, Wright SH, Knight PA, Thornton EM. A novel function for Transforming Growth Factor- β 1: upregulation of the expression and the IgE-independent extracellular release of a mucosal mast cell granule-specific beta-chymase, Mouse Mast Cell Protease-1. *Blood.* 1999 May 15; 93(10): 3473-86.

Wastling JM, Scudamore CL, Thornton EM, Newlands GFJ, Miller HRP. Constitutive expression of mouse mast cell protease-1 in normal balb/c mice and its up-regulation during intestinal nematode infection. *Immunology* 1997; 90: 308-13.

Related Products

14-4301 Rat IgG1 K Isotype Control Purified

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