

Datasheet: MCA1544PE

Description:	MOUSE ANTI HUMAN CD114:RPE
Specificity:	CD114
Other names:	G-CSF RECEPTOR
Format:	RPE
Product Type:	Monoclonal Antibody
Clone:	LMM775
Isotype:	IgG1
Quantity:	100 TESTS

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			Neat

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

Target Species	Human		
Product Form	Purified IgG conjugated to R. Phycoerythrin (RPE) - lyophilized		
Reconstitution	Reconstitute with 1 ml distilled water		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	RPE 488nm laser	496	578
Preparation	Purified IgG prepared by affinity chromatography on Protein A		
Buffer Solution	Phosphate buffered saline		
Preservative	0.09% Sodium Azide		
Stabilisers	1%	Bovine Serum Albumin	
	5%	Sucrose	

External Database
Links

UniProt:

[Q99062](#) [Related reagents](#)

Entrez Gene:

[1441](#) CSF3R [Related reagents](#)

Synonyms

GCSFR

RRID

AB_2245227

Specificity

Mouse anti Human CD114 antibody, clone LMM775 recognizes the human granulocyte colony-stimulating factor receptor (G-CSF-R) also known as CD114. CD114 is a 836 amino acid, single pass type I transmembrane glycoprotein, a crucial factor in the survival and maturation of cells in the neutrophilic lineage. CD114 contains a single [Ig-like C2-type](#) and five [fibronectin type-III](#) domains ([UniProt: Q99062](#)).

Mouse anti Human CD114 antibody, clone LMM775 binds to an epitope located [within the Ig-like domain](#) but does not block binding of G-CSF to its receptor ([Layton et al. 2001](#)). Mouse anti Human CD114 antibody, clone LMM775 does not bind to a mutant G-CSF-R when the Ig-like domain has been substituted with the related gp130 Ig-like domain ([Layton et al. 1999](#)). G-CSF stimulates the production of neutrophils and accelerates their maturation in bone marrow ([Demetri and Griffin 1991](#)). Expression of CD114 is down regulated on granulocytes but not monocytes following acute exposure to bacterial components including LPS with potential consequences for granulocyte function in the acute response to infection ([Dekkers et al. 2000](#)). The G-CSF-receptor on monocytes is functional, playing a role in the release of cytokines, either directly or indirectly following bacterial challenge ([Boneburg et al. 2000](#)). The G-CSF receptor CD114 has also been implicated in the induction of β -1 integrin mediated adhesion and invasion of pancreatic cancer cells ([Chakraborty et al. 2006](#)).

Flow Cytometry

Use 10ul of the suggested working dilution to label 10^6 cells or 100ul whole blood.

References

1. Dekkers, P.E. *et al.* (2000) Granulocyte colony-stimulating factor receptors on granulocytes are down-regulated after endotoxin administration to healthy humans. [J Infect Dis. 181: 2067-70.](#)
2. Boneberg, E.M. *et al.* (2000) Human monocytes express functional receptors for granulocyte colony-stimulating factor that mediate suppression of monokines and interferon-gamma. [Blood. 95: 270-6.](#)
3. Layton, J.E. *et al.* (2001) Identification of ligand-binding site III on the immunoglobulin-like domain of the granulocyte colony-stimulating factor receptor. [J Biol Chem. 276: 36779-87.](#)
4. Layton, J.E. *et al.* (1999) Interaction of granulocyte colony-stimulating factor (G-CSF) with its receptor. Evidence that Glu19 of G-CSF interacts with Arg288 of the receptor. [J Biol Chem. 274: 17445-51.](#)
5. Anderson, G. *et al.* (2006) Thalidomide derivative CC-4047 inhibits osteoclast formation by down-regulation of PU.1. [Blood. 107: 3098-105.](#)
6. Chakraborty, A. *et al.* (2006) Granulocyte Colony-Stimulating Factor Receptor Promotes

b1-Integrin-Mediated Adhesion and Invasion of Pancreatic Cancer Cells. In: Conference Abstracts From the 2006 Annual Meeting of the International Society of Gastrointestinal Oncology: Session II: Pancreatic cancer. [PGCR 1:1, 2006 \(ABSTRACT 208\)](#)

7. Layton, J.E. *et al.* (1997) Neutralising antibodies to the granulocyte colony-stimulating factor receptor recognise both the immunoglobulin-like domain and the cytokine receptor homologous domain. [Growth Factors.14: 117-30.](#)

8. Diaz-Romero, J. *et al.* (2005) Immunophenotypic analysis of human articular chondrocytes: changes in surface markers associated with cell expansion in monolayer culture. [J Cell Physiol. 202: 731-42.](#)

Further Reading 1. Nicholson, S.E. *et al.* (1994) Tyrosine kinase JAK1 is associated with the granulocyte-colony-stimulating factor receptor and both become tyrosine-phosphorylated after receptor activation. [Proc Natl Acad Sci U S A. 91 \(8\): 2985-8.](#)

Storage Prior to reconstitution store at +4°C. Following reconstitution store at +4°C.

DO NOT FREEZE.

This product should be stored undiluted. This product is photosensitive and should be protected from light. Should this product contain a precipitate we recommend microcentrifugation before use.

Guarantee 12 months from date of reconstitution.

Health And Safety Information Material Safety Datasheet documentation #10075 available at: 10075: <https://www.bio-rad-antibodies.com/uploads/MSDS/10075.pdf>

Regulatory For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:RPE \(MCA928PE\)](#)

Recommended Useful Reagents

[HUMAN SEROBLOCK \(BUF070A\)](#)

[HUMAN SEROBLOCK \(BUF070B\)](#)

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