Datasheet: MCA1544PET

Description:	MOUSE ANTI HUMAN CD114:RPE
Specificity:	CD114
Other names:	G-CSF RECEPTOR
Format:	RPE
Product Type:	Monoclonal Antibody
Clone:	LMM775
Isotype:	IgG1
Quantity:	25 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

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 Stabilisers

0.09% Sodium Azide
1% Bovine Serum Albumin
5% Sucrose

External Database Links

UniProt:

Q99062 Related reagents

Entrez Gene:

1441 CSF3R Related reagents

Synonyms	GCSFR
RRID	AB_1102584
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 (Leyton *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 challange (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	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 despatch.
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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