ARG23109
anti-Macrophages antibody [MAC387] (FITC)

Package: 50 µg
Store at: 4°C

Summary

Product Description	FITC-conjugated Mouse Monoclonal antibody [MAC387] recognizes Macrophages Mouse anti Human macrophages, clone MAC387 recognizes the L1 or Calprotectin molecule, an intracytoplasmic antigen comprised of a 12 kDa alpha chain and a 14 kDa beta chain. Although originally described as binding to epitopes common to both the alpha and beta chains (Flavell et al. 1987) subsequent studies indicate that the antibody detects an epitope exclusively expressed on the beta chain (Goebeler et al. 1994) demonstrated by immunofluorescent and western blotting on both naturally expressing and transfected targets. In addition Mouse anti Human macrophages, clone MAC387 detects the beta chain in complex with the alpha.The antigen recognized by Mouse anti Human macrophages, clone MAC387 is expressed by granulocytes, monocytes and by tissue macrophages. Variable results have been reported for staining brain macrophages and microglia. The epitope recognized appears to be well conserved and the antibody is routinely used for the detection of myeloid cellds in a wide range of species.
Tested Reactivity	Hu, Rat, Bb, Bov, Cat, Deer, Dog, Goat, Gpig, Hrs, Marmoset, Pig, R. Mk, Rb
Tested Application	FACS
Host	Mouse
Clonality	Monoclonal
Clone	MAC387
Isotype	IgG1
Target Name	Macrophages
Species	Human
Immunogen	Human monocytes.
Conjugation	FITC
Alternate Names	Calgranulin-B; MRP-14; MRP14; 60B8AG; CFAG; MAC387; Calprotectin L1H subunit; NIF; MIF; p14; LIAG; Protein S100-A9; CGLB; Migration inhibitory factor-related protein 14; L1AG; Leukocyte L1 complex heavy chain; P14; CAGB; S100 calcium-binding protein A9

Application Instructions

Application table

Application	Dilution
FACS	Neat

Application Note: FACS: Membrane permeabilization is required for this application. Use 10 µl of the suggested working dilution to label 10^6 cells in 100 µl.
* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

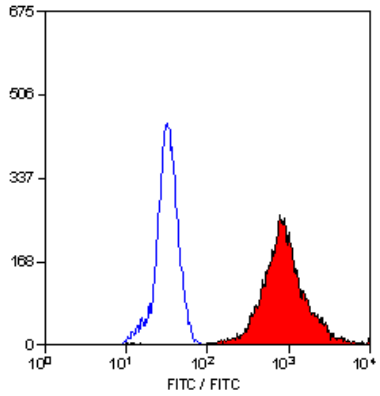
Form	Liquid
Purification	Purification with Protein G.

Buffer	PBS, 0.09% Sodium azide and 1% BSA
Preservative	0.09% Sodium azide
Stabilizer	1% BSA
Concentration	0.1 mg/ml
Storage instruction	Aliquot and store in the dark at 2-8°C. Keep protected from prolonged exposure to light. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	S100A9
Gene Full Name	S100 calcium binding protein A9
Background	The protein encoded by this gene is a member of the S100 family of proteins containing 2 EF-hand calcium-binding motifs. S100 proteins are localized in the cytoplasm and/or nucleus of a wide range of cells, and involved in the regulation of a number of cellular processes such as cell cycle progression and differentiation. S100 genes include at least 13 members which are located as a cluster on chromosome 1q21. This protein may function in the inhibition of casein kinase and altered expression of this protein is associated with the disease cystic fibrosis. This antimicrobial protein exhibits antifungal and antibacterial activity. [provided by RefSeq, Nov 2014]
Function	S100A9 is a calcium- and zinc-binding protein which plays a prominent role in the regulation of inflammatory processes and immune response. It can induce neutrophil chemotaxis, adhesion, can increase the bactericidal activity of neutrophils by promoting phagocytosis via activation of SYK, PI3K/AKT, and ERK1/2 and can induce degranulation of neutrophils by a MAPK-dependent mechanism. Predominantly found as calprotectin (S100A8/A9) which has a wide plethora of intra- and extracellular functions. The intracellular functions include: facilitating leukocyte arachidonic acid trafficking and metabolism, modulation of the tubulin-dependent cytoskeleton during migration of phagocytes and activation of the neutrophilic NADPH-oxidase. Activates NADPH-oxidase by facilitating the enzyme complex assembly at the cell membrane, transferring arachidonic acid, an essential cofactor, to the enzyme complex and S100A8 contributes to the enzyme assembly by directly binding to NCF2/P67PHOX. The extracellular functions involve proinfammatory, antimicrobial, oxidant-scavenging and apoptosis-inducing activities. Its proinflammatory activity includes recruitment of leukocytes, promotion of cytokine and chemokine production, and regulation of leukocyte adhesion and migration. Acts as an alarmin or a danger associated molecular pattern (DAMP) molecule and stimulates innate immune cells via binding to pattern recognition receptors such as Toll-like receptor 4 (TLR4) and receptor for advanced glycation endproducts (AGER). Binding to TLR4 and AGER activates the MAP-kinase and NF-kappa-B signaling pathways resulting in the amplification of the proinflammatory cascade. Has antimicrobial activity towards bacteria and fungi and exerts its antimicrobial activity probably via chelation of Zn(2+) which is essential for microbial growth. Can induce cell death via autophagy and apoptosis and this occurs through the cross-talk of mitochondria and lysosomes via reactive oxygen species (ROS) and the process involves BNIP3. Can regulate neutrophil number and apoptosis by an anti-apoptotic effect; regulates cell survival via ITGAM/ITGB and TLR4 and a signaling mechanism involving MEK-ERK. Its role as an oxidant scavenger has a protective role in preventing exaggerated tissue damage by scavenging oxidants. Can act as a potent amplifier of inflammation in autoimmunity as well as in cancer development and tumor spread. Has transnitrosylase activity; in oxidatively-modified low-densitity lipoprotein (LDL(ox))-induced S-nitrosylation of GAPDH on 'Cys-247' proposed to transfer the NO moiety from NOS2/iNOS to GAPDH via its own S-nitrosylated Cys-3. The iNOS-S100A8/A9 transnitrosylase complex is proposed to also direct selective inflammatory stimulus-dependent S-nitrosylation of multiple targets such as ANXA5, EZR, MSN and VIM by recognizing a [IL]-x-C-x-x-[DE] motif. [UniProt]
Calculated Mw	13 kDa
PTM	Phosphorylated. Phosphorylation inhibits activation of tubulin polymerization. S-nitrosylation of Cys-3 is implicated in LDL(ox)-induced S-nitrosylation of GAPDH at 'Cys-247' through a transnitrosylase mechanism involving a iNOS-S100A8/9 complex (PubMed:25417112).

Images



ARG23109 anti-Macrophages antibody [MAC387] (FITC) FACS image

Flow Cytometry: Human peripheral blood granulocytes stained with ARG23109 anti-Macrophages antibody [MAC387] (FITC) following permeabilization with Leucoperm.