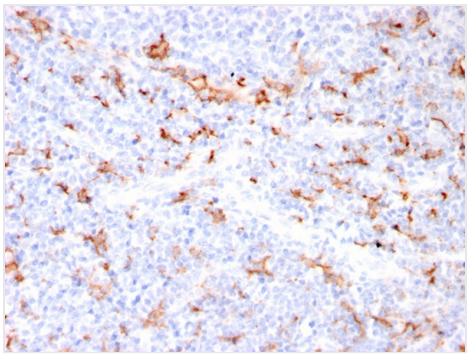
S100A9 + Calprotectin (S100A8/S100A9) Antibody – Rabbit

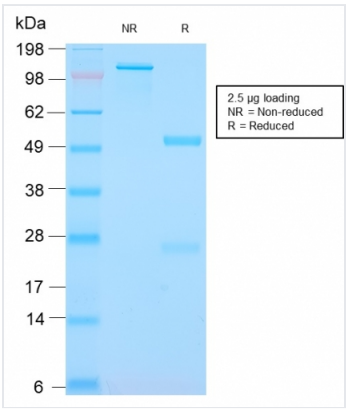
PRODUCT OVERVIEW

Product Name	S100A9 + Calprotectin (S100A8/S100A9), Antibody
Full Product Name	S100A9 + Calprotectin (S100A8/A9 Complex)
Product Gene Name	anti-S100A8/S100A9 antibody
Product Synonym Names	60B8AG; Calgranulin A (CAGA); Calgranulin B (CAGB); Calprotectin L1L subunit; Chemotactic cytokine CP-10; Cystic fibrosis antigen (CFAG); Leukocyte L1 complex light chain; L1Ag; Migration inhibitory factor related protein 8; Myeloid-related protein 8 or 14 (MRP8 or MRP14); Myeloid-related protein 14 (MRP14); Neutrophil cytosolic 7kDa protein; NIF; MA387; Pro-inflammatory S100 cytokine; Urinary stone protein band A
Isotype	IgG
Clone Number	MAC3157R
Host	Rabbit
Species Reactivity	Human, Baboon, Monkey, Cow, Pig, Goat, Horse, Cat, Dog, Rabbit, Guinea Pig, Rat, Mouse
Form/Format	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 1mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
Purity/Purification	Purified Ab with BSA and Azide at 200ug/ml OR Purified Ab WITHOUT BSA and Azide at 1.0mg/ml
Specificity	Recognizes the L1 or Calprotectin molecule, an intra-cytoplasmic antigen comprising of a 12kDa alpha chain and a 14kDa beta chain expressed by granulocytes, monocytes and by tissue macrophages. Macrophages usually arise from hematopoietic stem cells in the bone marrow. Under migration into tissues, the monocytes undergo further differentiation to become multifunctional tissue macrophages. They are classified into normal and inflammatory macrophages. Normal macrophages include macrophages in connective tissue (histiocytes), liver (Kupffer's cells), lung (alveolar macrophages), lymph nodes (free and fixed macrophages), spleen (free and fixed macrophages), bone marrow (fixed macrophages), serous fluids (pleural and peritoneal macrophages), skin (histiocytes, Langerhans's cell) and in other tissues. Inflammatory macrophages are present in various exudates. Macrophages are part of the innate immune system, recognizing, engulfing and destroying many potential pathogens including bacteria, pathogenic protozoa, fungi and helminthes. This MAb reacts with neutrophils, monocytes, macrophages, and squamous mucosal epithelia and has been shown as an important marker for identifying macrophages in tissue sections.
Preparation and Storage	Antibody with azide: store at 2 to 8 degree C. Antibody is stable for 24 months. Non-hazardous. No MSDS required.
Molecular Weight	12-14kDa (doublet)
OMIM	123885
3D Structure	ModBase 3D Structure for P05109
Positive Control	Tonsil, lymph node or spleen.
Immunogen	Affinity Purified monocyte membrane preparation
Cellular Localization	Cytoplasmic
Hu-chromosome Location	1q21
Antibody Type	Recombinant Rabbit Monoclonal Antibody
Applications Tested/Suitable for anti-S100A8/S100A9 antibody	Immunohistochemistry (IHC) Paraffin

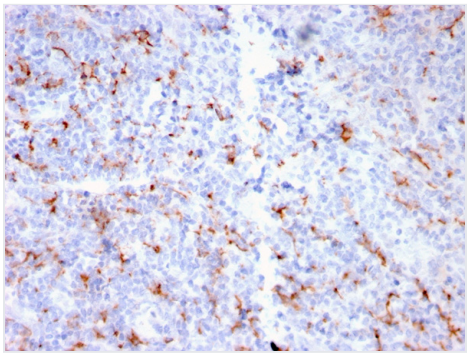
Application Notes for anti-S100A8/S100A9 antibody	Flow Cytometry (FC)||(0.5-1ug million cells) Immunofluorescence (IF)||(0.5-1ug/ml) Immunohistochemistry-Formalin-fixed: (0.5-1ug/ml for 30 minutes at RT) (Staining of Formalin-fixed tissues requires boiling tissue sections in 10mM citrate buffer, pH 6.0, for 10-20min followed by cooling at RT for 20 minutes) Optimal dilution for a specific application should be determined.
Related Product Information for anti-S100A8/S100A9 antibody	MBS4381237 is an antibody targeting S100A8/S100A9. Also known as S100A9 + Calprotectin (S100A8/A9 Complex). Reactive in Human, Baboon, Monkey, Cow, Pig, Goat, Horse, Cat, Dog, Rabbit, Guinea Pig, Rat, Mouse. Host: Rabbit.
Product References and Citations for anti-S100A8/S100A9 antibody	Flavell DJ, et al. Journal of Histochemistry and Cytochemistry, 1987, 35(11):1217-26.
Other Notes	Small volumes of anti-S100A8/S100A9 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.



Immunohistochemistry (IHC) of anti-S100A8/S100A9 antibody
Formalin-fixed, paraffin-embedded human Tonsil stained with S100A8/A9 Complex Recombinant Rabbit Monoclonal Antibody (MAC3157R).



SDS-Page of anti-S100A8/S100A9 antibody
SDS-PAGE Analysis Purified S100A8/A9 Complex Recombinant Rabbit Monoclonal (MAC3157R). Confirmation of Purity and Integrity of Antibody.



Immunohistochemistry (IHC) of anti-S100A8/S100A9 antibody
Formalin-fixed, paraffin-embedded human Tonsil stained with S100A8/A9 Complex Recombinant Rabbit Monoclonal Antibody (MAC3157R).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for S100A8/S100A9. It may not necessarily be applicable to this product.

NCBI GI #	47115285
NCBI GeneID	6279
NCBI Accession #	CAG28602.1
UniProt Primary Accession #	P05109
UniProt Secondary Accession #	P06702

UniProt Related Accession #	P05109
NCBI Official Full Name	S100A8, partial
NCBI Official Synonym Full Names	S100 calcium binding protein A8
NCBI Official Symbol	S100A8
NCBI Official Synonym Symbols	P8; MIF; NIF; CAGA; CFAG; CGLA; L1Ag; MRP8; CP-10; MA387; 60B8AG
UniProt Protein Name	Protein S100-A8
UniProt Synonym Protein Names	Calgranulin-A; Calprotectin L1L subunit; Cystic fibrosis antigen; CFAG; Leukocyte L1 complex light chain; Migration inhibitory factor-related protein 8; MRP-8; p8; S100 calcium-binding protein A8; Urinary stone protein band A
UniProt Gene Name	S100A8
UniProt Synonym Gene Names	CAGA; CFAG; MRP8; CFAG; MRP-8; p8
UniProt Entry Name	S10A8_HUMAN
NCBI Protein Information	protein S100-A8
NCBI Summary for S100A8/S100A9	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 as a cytokine. Altered expression of this protein is associated with the disease cystic fibrosis. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jan 2016]

UniProt Comments for S100A8/S100A9	S100A8: S100A8 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 and adhesion. 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, transfering 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. Belongs to the S-100 family. Chromosomal Location of Human Ortholog: 1q21 Cellular Component: extracellular space; cytoskeleton; plasma membrane; extracellular region; nucleus; cytosol Molecular Function: arachidonic acid binding; RAGE receptor binding; protein binding; zinc ion binding; microtubule binding; calcium ion binding Biological Process: caspase activation; neutrophil chemotaxis; chronic inflammatory response; chemokine production; wound healing; cytokine production; positive regulation of peptide secretion; response to lipopolysaccharide; positive regulation of cell growth; leukocyte migration during inflammatory response; activation of NF-kappaB transcription factor; sequestering of zinc ion; response to ethanol; response to zinc ion; defense response to bacterium; autophagy; innate immune response; inflammatory response; defense response to fungus; acute inflammatory response; regulation of cytoskeleton organization and biogenesis; positive regulation of inflammatory response
Research Articles on S100A8/S100A9	**1.** The ROS scavenger N-acetylcysteine inhibited fascaplysin-induced autophagy and increased p8 protein level.
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