

Rabbit S100A8 Polyclonal Antibody | anti-S100A8 antibody

S100A8 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326322	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

S100A8; Polyclonal Antibody; S100A8 Antibody; 60B8Ag; A1323541; B8Ag; BEE11; CAGA; Calgranulin-A; Calprotectin L1L subunit; Calprotectin; included; CFAG; CGLA; Chemotactic cytokine CP-10; CP-10; Cystic fibrosis antigen; L1Ag; Leukocyte L1 complex light chain; MA387; MIF; Migration inhibitory factor-related protein 8; MRP-8; Myeloid-related protein 8; Neutrophil cytosolic 7 kDa protein; NIF; p8; Pro-inflammatory S100 cytokine; Protein S100-A8; S100 calcium binding protein A8 (calgranulin A); S100 calcium binding protein A8; S100 calcium-binding protein A8; S100A8/S100A9 complex; S10A8_HUMAN; Urinary stone protein band A; anti-S100A8 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	S100A8 antibody detects endogenous levels of total S100A8
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	116
Applicable Applications for anti-S100A8 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human S100A8
Subcellular Location	Secreted. Cytoplasm. Cytoplasm > Cytoskeleton. Cell Membrane. Associates with tubulin filaments in activated monocytes. Targeted to the cell surface upon calcium influx. Released from blood leukocytes upon exposure to CSF2/GM-CSF, bacterial lipopolysaccharide (LPS) and during inflammatory processes. Serum levels are high in patients suffering from chronic inflammation.
Tissue Specificity	Calprotectin (S100A8/9) is predominantly expressed in myeloid cells. Except for inflammatory conditions, the expression is restricted to a specific stage of myeloid differentiation since both proteins are expressed in circulating neutrophils and monocytes but are absent in normal tissue macrophages and lymphocytes. Under chronic inflammatory conditions, such as psoriasis and malignant disorders, also expressed in the epidermis. Found in high concentrations at local sites of inflammation or in the serum of patients with inflammatory diseases such as rheumatoid, cystic fibrosis, inflammatory bowel disease, Crohn's disease, giant cell arteritis, cystic fibrosis, Sjogren's syndrome, systemic lupus erythematosus, and progressive systemic sclerosis. Involved in the formation and deposition of amyloids in the aging prostate known as corpora amylacea inclusions. Strongly up-regulated in many tumors, including gastric, esophageal, colon, pancreatic, bladder, ovarian, thyroid, breast and skin cancers.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



WB (Western Blot)

Western blot analysis of extracts of K-562, using S100A8 antibody. The lane on the left is treated with the antigen-specific peptide.



IF (Immunofluorescence)

AAA326322 staining HepG2 cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.



IHC (Immunohistochemistry)

AAA326322 at 1/100 staining Human urothelial cancer tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

ADDITIONAL INFORMATION

Related Product Information for anti-S100A8 antibody

Description: 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. [provided by RefSeq, Jul 2008]

Function: 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, 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 proinflammatory, 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 Zn2+ 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. The iNOS-S100A8/A9 transnitrosylase complex directs selective inflammatory stimulus-dependent S-nitrosylation of GAPDH and probably multiple targets such as ANXA5, EZR, MSN and VIM by recognizing a [IL]-x-C-x-x-[DE] motif; S100A8 seems to contribute to S-nitrosylation site selectivity.

Subunit Structure: Homodimer. Preferentially exists as a heterodimer or heterotetramer with S100A9 known as calprotectin (S100A8/A9). S100A8 interacts with AGER, ATP2A2 and with the heterodimeric complex formed by TLR4 and LY96 (By similarity). Interacts with GAPDH. Calprotectin (S100A8/9) interacts with CEACAM3 and tubulin filaments in a calcium-dependent manner. Heterotetrameric calprotectin (S100A8/A9) interacts with ANXA6 and associates with tubulin filaments in activated monocytes. S100A8 and calprotectin (S100A8/9) interact with NCF2/P67PHOX, RAC1 and RAC2. Calprotectin (S100A8/9) interacts with CYBA and CYBB. Calprotectin (S100A8/9) interacts with NOS2 to form the iNOS-S100A8/A9 transnitrosylase complex; induced by LDL(ox) (PubMed:25417112).

Similarity: Belongs to the S-100 family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	984290540
NCBI GeneID	6279
NCBI Accession #	NP_001306126.1
NCBI GenBank Nucleotide #	NM_001319197.1
UniProt Accession #	P05109; Q5SY70; Q9UC84; Q9UC92; Q9UCJ0; Q9UCM6; A8K5L3; D3DV37
Molecular Weight	Observed: 11 kDa Predicted: 11 kDa
NCBI Official Full Name	protein S100-A8 isoform b
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
NCBI Protein Information	protein S100-A8
UniProt Protein Name	Protein S100-A8
UniProt Gene Name	S100A8
UniProt Synonym Gene Names	CAGA; CFAG; MRP8; CFAG; MRP-8; p8

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
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