abcam

ab17050

Anti-Calprotectin (S100A8 + S100A9) antibody [27E10]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.02% Sodium azide Constituents: PBS, 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing S100A8 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P05109
Clone number	27E10
Purification technique	Affinity purification Protein G
Specificity	Does not react with lymphocytes or platelets.
Epitope	ab17050 recognises an epitope on the MRP8 + MRP14 complex which is not exposed on the individual subunits.
Concentration	0.1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	0.2 µm filtered

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/10
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Not recommended

Species	Mouse
Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Species	Rhesus monkey
Dilution info	-
Notes	-

IA

Tested

Species	Human
Dilution info	0.5-2 µg/mL
Notes	-

Not recommended

Species	Mouse, Rhesus monkey
Dilution info	-
Notes	-

FuncS

Not recommended

Species	Mouse, Human, Rhesus monkey
Dilution info	-

Notes	-

IHC-Fr

Tested

Species	Human
Dilution info	1/100
Notes	-

Not recommended

Species	Mouse, Rhesus monkey
Dilution info	-
Notes	-

Target data

See full target information S100A9

Function

S100A9 is a calcium- and zinc-binding protein which plays a prominent role in the regulation of inflammatory processes and immune response (PubMed:12626582, PubMed:15331440, PubMed:16258195, PubMed:19122197, PubMed:20103766, PubMed:21325622, PubMed:8423249). 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 (PubMed:12626582, PubMed:15331440, PubMed:20103766). Predominantly found as calprotectin (S100A8/A9) which has a wide plethora of intra- and extracellular functions (PubMed:16258195, PubMed:19122197, PubMed:8423249). 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 (PubMed:15331440, PubMed:21325622). Also participates in regulatory T-cell differentiation together with CD69 (PubMed:26296369). 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 (PubMed:15642721, PubMed:22808130). The extracellular functions involve pro-inflammatory, antimicrobial, oxidant-scavenging and apoptosis-inducing activities (PubMed:19534726, PubMed:8423249). Its pro-inflammatory activity includes recruitment of leukocytes, promotion of cytokine and chemokine production, and regulation of leukocyte adhesion and migration (PubMed:15598812, PubMed:21487906). 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) (PubMed:19402754). Binding to TLR4 and AGER activates the MAP-kinase and NF-kappa-B signaling pathways resulting in the amplification of the pro-inflammatory cascade (PubMed:19402754, PubMed:22804476). Has antimicrobial activity towards bacteria and fungi and exerts its antimicrobial activity probably via chelation of Zn(2+) which is essential for microbial growth (PubMed:19087201). 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 (PubMed:19935772). 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 (PubMed:22363402). Its role as an oxidant scavenger has a protective role in preventing exaggerated tissue damage by scavenging oxidants (PubMed:21912088, PubMed:22489132). Can act as a potent amplifier of inflammation in autoimmunity as well as in cancer development and tumor spread (PubMed:16258195). 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 (PubMed:25417112). 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 (PubMed:25417112).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

ab17050 can be used for early detection of inflammatory macrophages, characterisation of tumorous tissues and monitoring of peripheral blood cell cultures.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

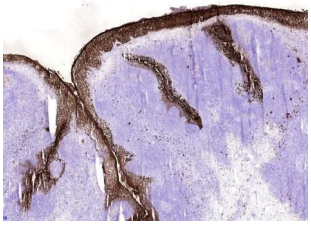
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

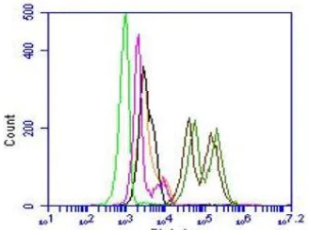
3 product images



Immunohistochemistry (Frozen sections) - Anti-Calprotectin (S100A8 + S100A9) antibody [27E10] (ab17050)

Calprotectin (S100A8 + S100A9) Immunohistochemistry (Frozen sections) staining using mouse Anti-Calprotectin (S100A8 + S100A9) antibody

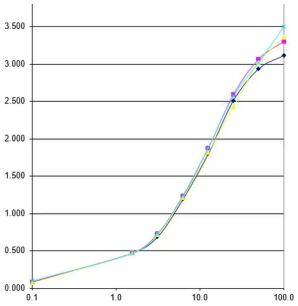
Staining of squamous epithelia of frozen human tonsil section with ab17050 at a dilution of 1/100.



Flow Cytometry - Anti-Calprotectin (S100A8 + S100A9) antibody [27E10] (ab17050)

Calprotectin (S100A8 + S100A9) Flow Cytometry staining using mouse Anti-Calprotectin (S100A8 + S100A9) antibody

Flow cytometric detection of S100A8 + S100A9 in fresh human peripheral blood mononuclear cells (PBMC) with ab17050. The green and black line represent the isotype control in 2 concentrations, the pink line the secondary antibody only and the green and brown line ab17050 in a concentration of 1 and 3 µl/200000 cells.



Immunoassay - Anti-Calprotectin (S100A8 + S100A9) antibody [27E10] (ab17050)

ab17050 used as capture antibody. Different concentrations were tested (0.5-2 µg/ml).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.