

Product datasheet for **TA388731**

S100a9 Rabbit Polyclonal Antibody

Product data:

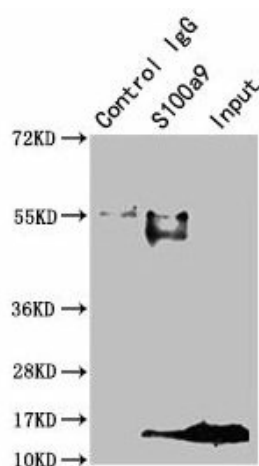
Product Type:	Primary Antibodies
Applications:	IP, WB
Recommended Dilution:	Recommended dilution: WB:1:500-1:5000, IP:1:200-1:2000
Reactivity:	Mouse
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	Recombinant Mouse Protein S100-A9 protein (2-113AA)
Formulation:	Preservative: 0.03% Proclin 300 Constituents: 50% Glycerol, 0.01M PBS, PH 7.4
Concentration:	lot specific
Purification:	>95%, Protein G purified
Conjugation:	Unconjugated
Storage:	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Stability:	1 year from dispatch.
Database Link:	<u>P31725</u>



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Background:

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 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.

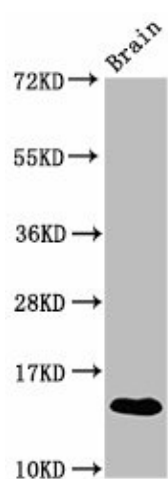
Product images:


Immunoprecipitating S100a9 in Mouse spleen tissue

Lane 1: Rabbit control IgG instead of TA388731 in Mouse spleen tissue. For western blotting, a HRP-conjugated Protein G antibody was used as the secondary antibody (1/2000)

Lane 2: TA388731 (8µg) + Mouse spleen tissue (500µg)

Lane 3: Mouse spleen tissue (10µg)



Western Blot

Positive WB detected in: Mouse brain tissue

All lanes: S100a9 antibody at 3.9µg/ml

Secondary

Goat polyclonal to rabbit IgG at 1/50000 dilution

Predicted band size: 14 kDa

Observed band size: 14 kDa