

Protein S100-A9 Polyclonal Antibody

Catalog No: #42316

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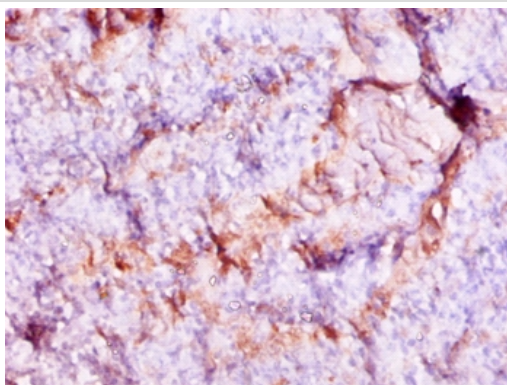
Description

Product Name	Protein S100-A9 Polyclonal Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	Caprylic Acid Ammonium Sulfate Precipitation purified
Applications	IHC
Species Reactivity	Hu
Specificity	The antibody detects endogenous level of total Protein S100-A9 polyclonal antibody.
Immunogen Type	protein
Immunogen Description	Recombinant human Protein S100-A9 protein
Target Name	Protein S100-A9
Other Names	Calgranulin-B Calprotectin L1H subunit Leukocyte L1 complex heavy chain Migration inhibitory factor-related protein 14 S100 calcium-binding protein A9 S100A9 CAGB, CFAG, MRP14
Accession No.	Swiss-Prot#: P06702
Uniprot	P06702
GeneID	6280;
Formulation	Preservative: 0.03% Proclin 300 Constituents: 50% Glycerol, 0.01M PBS, PH 7.4
Storage	Store at -20°C

Application Details

Immunohistochemistry: 1:20 - 1:200

Images



Immunohistochemical analysis of paraffin-embedded human tonsil using #42316 at dilution of 1:10.

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. Can act as a potent amplifier of inflammation in autoimmunity as well as in cancer development and tumor spread.

References

[1]Two calcium-binding proteins in infiltrate macrophages of rheumatoid arthritis.Odink K., Cerletti N., Bruggen J., Clerc R.G., Tarcsay L., Zwaldo G., Gerhards G., Schlegel R., Sorg C.Nature 330:80-82(1987) [2]Cloning and expression of two human genes

Note: This product is for in vitro research use only