

## S100A8 Monoclonal Antibody

Catalog No: #42026

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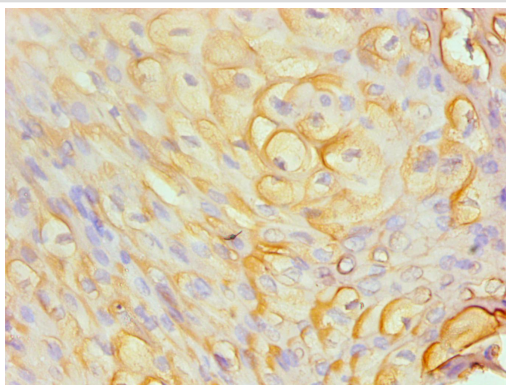
## Description

Product Name	S100A8 Monoclonal Antibody
Host Species	Mouse
Clonality	Monoclonal
Purification	protein G purified
Applications	IHC
Specificity	specific for Human S100A8 denatured and native forms
Immunogen Type	protein
Immunogen Description	Recombinant Human S100A8
Target Name	S100A8
Other 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
Accession No.	Swiss-Prot#: P05109
Uniprot	P05109
GeneID	6279;
Concentration	1.0mg/mL
Formulation	Preservative: 0.03% Proclin 300 Constituents: 50% Glycerol, 0.01M PBS, PH 7.4
Storage	Store at -20°C

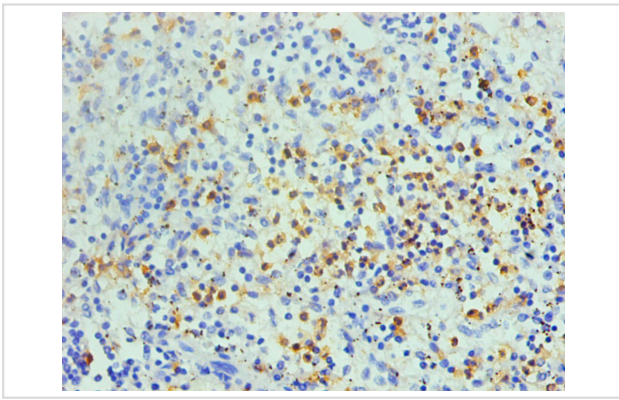
## Application Details

Immunohistochemistry: 1:20 - 1:200

## Images



Immunohistochemical analysis of paraffin-embedded human cervical cancer using #42026 at dilution of 1:200.



Immunohistochemical analysis of paraffin-embedded human spleen using #42026 at dilution of 1:200.

## Background

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 Zn<sup>2+</sup> 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.

Note: This product is for in vitro research use only