

## S100A9 Polyclonal Antibody(Capture/Detector)

catalog number: **AN000390P**

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

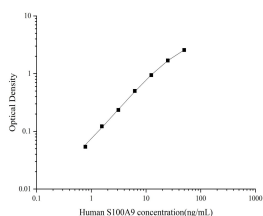
### Description

<b>Reactivity</b>	Human
<b>Immunogen</b>	Recombinant Human S100A9 protein expressed by E.coli
<b>Host</b>	Rabbit
<b>Isotype</b>	Rabbit IgG
<b>Purification</b>	Antigen Affinity Purification
<b>Buffer</b>	Phosphate buffered solution, pH 7.2, containing 0.05% Proclin300.

### Applications Recommended Dilution

<b>ELISA Capture</b>	2-8 µg/mL
<b>ELISA Detector</b>	0.1-0.4 µg/mL

### Data



Sandwich ELISA-Recombinant Human S100A9 protein standard curve. Background subtracted standard curve using S100A9 antibody(AN000390P)(Capture), S100A9 antibody(AN000390P)(Detector) in sandwich ELISA. The reference range value for Recombinant Human S100A9 protein is 0.78125-50 ng/mL.

### Preparation & Storage

<b>Storage</b>	Store at 4°C valid for 12 months or -20°C valid for long term storage, avoid freeze / thaw cycles.
<b>Shipping</b>	The product is shipped with ice pack, upon receipt, store it immediately at the temperature recommended.

### Background

### For Research Use Only

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 pro-inflammatory, antimicrobial, oxidant-scavenging and apoptosis-inducing activities.

Its pro-inflammatory 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 pro-inflammatory 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.