

Datasheet for ABIN5510716
S100A8 ELISA Kit[Go to Product page](#)

1 Image

Overview

Quantity:	96 tests
Target:	S100A8
Binding Specificity:	AA 2-93
Reactivity:	Human
Method Type:	Sandwich ELISA
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human S100A8
Brand:	PicoKine™
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	Expression system for standard: E.coli Immunogen sequence: L2-E93
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.
Characteristics:	Tissue Specificity: Calprotectin (S100A8/9) is predominantly expressed in myeloid cells. Except for inflammatory conditions, the expression is restricted to a specific stage of myeloid differentiation since both proteins are expressed in circulating neutrophils and monocytes but are absent in normal tissue macrophages and lymphocytes. Under chronic inflammatory conditions, such as psoriasis and malignant disorders, also expressed in the epidermis. Found in high concentrations at local sites of inflammation or in the serum of patients with

inflammatory diseases such as rheumatoid, cystic fibrosis, inflammatory bowel disease, Crohn's disease, giant cell arteritis, cystic fibrosis, Sjogren's syndrome, systemic lupus erythematosus, and progressive systemic sclerosis. Involved in the formation and deposition of amyloids in the aging prostate known as corpora amylacea inclusions. Strongly up-regulated in many tumors, including gastric, esophageal, colon, pancreatic, bladder, ovarian, thyroid, breast and skin cancers. .

Target Details

Target:	S100A8
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Alternative Name:	S100A8 (S100A8 Products)
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Background:	<p>Protein Function: 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(2+) 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. The iNOS-S100A8/A9 transnitrosylase complex</p>
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Target Details

directs selective inflammatory stimulus-dependent S-nitrosylation of GAPDH and probably multiple targets such as ANXA5, EZR, MSN and VIM by recognizing a [IL]-x-C-x-x-[DE] motif, S100A8 seems to contribute to S-nitrosylation site selectivity. .

Background: S100 calcium-binding protein A8 (S100A8), also known as calgranulin A, is a protein that in humans is encoded by the S100A8 gene. It is mapped to chromosome 1q21.3 based on an alignment of the S100A8 sequence with the genomic sequence. The proteins S100A8 and S100A9 form a heterodimer called calprotectin which is a major calcium- and zinc-binding protein in the cytosol of neutrophils, monocytes, and keratinocytes. This gene is a member of the S100 family of proteins containing 2 EF-hand calcium-binding motifs. S100 proteins are localized in the cytoplasm and/or nucleus of a wide range of cells, and involved in the regulation of a number of cellular processes such as cell cycle progression and differentiation. And S100 genes include at least 13 members which are located as a cluster on chromosome 1q21. This protein may function in the inhibition of casein kinase and as a cytokine. Altered expression of this protein is associated with the disease cystic fibrosis.

Synonyms: Protein S100-A8,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,Protein S100-A8, N-terminally processed,S100A8,CAGA, CFAG, MRP8,

Full Gene Name: Protein S100-A8

Cellular Localisation: Secreted. Cytoplasm. Cytoplasm, cytoskeleton. Cell membrane, Peripheral membrane protein. Predominantly localized in the cytoplasm. Upon elevation of the intracellular calcium level, translocated from the cytoplasm to the cytoskeleton and the cell membrane.

Upon neutrophil activation or endothelial adhesion of monocytes, is secreted via a microtubule-mediated, alternative pathway.

UniProt: [P05109](#)

Pathways: [Transition Metal Ion Homeostasis](#), [Positive Regulation of Endopeptidase Activity](#), [S100 Proteins](#)

Application Details

Plate: Pre-coated

Restrictions: For Research Use only

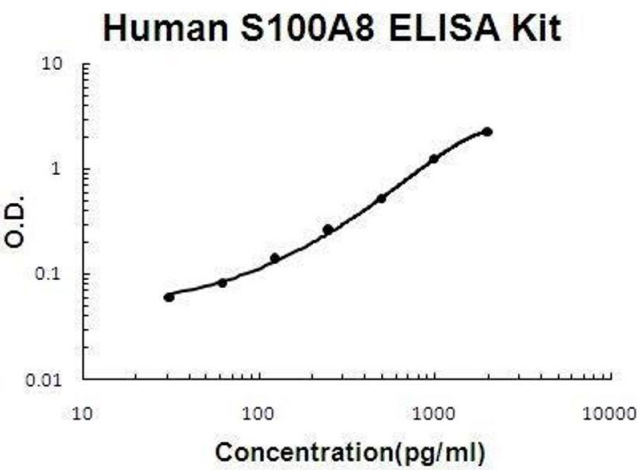
Handling

Storage: 4 °C,-20 °C

Handling

Storage Comment:	Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles(Shipped with wet ice.)
Expiry Date:	12 months

Images



ELISA

Image 1. Human S100A8 PicoKine ELISA Kit standard curve