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# Datasheet for ABIN7321295 S100A9 Protein (His tag)



Overview	
Quantity:	100 µg
Target:	S100A9
Origin:	Rat
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Purification tag / Conjugate:	This S100A9 protein is labelled with His tag.
Product Details	
Purpose:	Recombinant Rat S100A9 Protein (His Tag)
Sequence:	Ala2-Lys113
Characteristics:	A DNA sequence encoding the Rat S100A9 (P50116-1) (Ala2-Lys113) was expressed with a polyhistidine tag at the N-terminus.
Purity:	>85 % as determined by reducing SDS-PAGE.
Target Details	
Target:	S100A9

l'arget:	STUUA9
Alternative Name:	S100A9 (S100A9 Products)
Background:	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

Order at www.antibodies-online.com | www.antikoerper-online.de | www.anticorps-enligne.fr | www.antibodies-online.cn International: +49 (0)241 95 163 153 | USA & Canada: +1 877 302 8632 | support@antibodies-online.com Page 1/3 | Product datasheet for ABIN7321295 | 09/09/2023 | Copyright antibodies-online. All rights reserved. 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. Has transnitrosylase activity, in oxidatively-modified low-densitity lipoprotein (LDL(ox))-induced Snitrosylation of GAPDH on 'Cys-247' proposed to transfer the NO moiety from NOS2/iNOS to GAPDH via its own S-nitrosylated Cys-3. The iNOS-S100A8/A9 transnitrosylase complex is proposed to also direct selective inflammatory stimulus-dependent S-nitrosylation of multiple targets such as ANXA5, EZR, MSN and VIM by recognizing a [IL]-x-C-x-x-[DE] motif. Synonym: Protein S100-A9,Calgranulin-B,Calprotectin L1H subunit,Leukocyte L1 complex heavy chain, Migration inhibitory factor-related protein 14, MRP-14, p14, S100 calcium-binding protein A9,CAGB, CFAG, MRP14

Molecular Weight:	13.01 kDa
Pathways:	Transition Metal Ion Homeostasis, Positive Regulation of Endopeptidase Activity, S100 Proteins

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#### Application Details

#### Restrictions:

For Research Use only

### Handling

Format:	Lyophilized
Reconstitution:	Please refer to the printed manual for detailed information.
Buffer:	Lyophilized from sterile PBS, pH 7.4
Storage:	4 °C,-20 °C,-80 °C
Storage Comment:	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted
	samples are stable at < -20°C for 3 months.