

Recombinant Mouse S100a8 overexpression lysate

Cat. No. S100a8-12HCL **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Recombinant mouse S100a8 HEK293T cell transient overexpression lysate (as WB positive control) with a C-Myc/DDK tag was expressed in HEK293T.

Preparation: HEK293T cells in 10-cm dishes were transiently transfected. Transfected cells were cultured for 48hrs before collection. The cells were lysed in modified RIPA buffer (25mM Tris-HCl pH7.6, 150mM NaCl, 1% NP-40, 1mM EDTA, 1xProteinase inhibitor cocktail mix, 1mM PMSF and 1mM Na3VO4), and then centrifuged to clarify the lysate. Protein concentration was measured by BCA kit. To facilitate transportation and protein, the products are supplied as lyophilized proteins.

Components: 1 vial of 20 µg lyophilized gene specific transient over-expression cell lysate

Species Mouse

Source HEK293

Description

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

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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. The iNOS-S100A8/A9 transnitrosylase complex is proposed to direct selective inflammatory stimulus-dependent S-nitrosylation of multiple targets such as GAPDH, ANXA5, EZR, MSN and VIM by recognizing a [IL]-x-C-x-x-[DE] motif; S100A8 seems to contribute to S-nitrosylation site selectivity.

Molecular Mass	10.7 kDa
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Stability	Lysate samples are stable for 12 months from date of receipt when stored at -20 centigrade. Avoid repeated freeze-thaw cycles after reconstitution.
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Storage	Upon receiving, store the sample at -20 centigrade.
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Reconstitution	Lysate samples can be reconstituted with SDS Sample Buffer. Prior to SDS-PAGE
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fractionation, boil the lysate for 5 minutes.

Shipping

The lysate can be shipped at ambient temperature.

GENE INFORMATION
Gene Name

S100a8 S100 calcium binding protein A8 (calgranulin A) [Mus musculus (house mouse)]

Official Symbol

S100a8

Synonyms

S100a8; S100 calcium binding protein A8 (calgranulin A); p; Ca; MR; p8; B8A; CFA; B8Ag; CFAg; CP-1; Caga; MRP8; 60B8A; CP-10; 60B8Ag; AI323541; protein S100-A8; Names; MRP-8; S100 calcium-binding protein A8; calgranulin-A; chemotactic S100 protein; chemotactic cytokine CP-10; leukocyte L1 complex light chain; migration inhibitory factor-related protein 8; pro-inflammatory S100 cytokine

Gene ID

20201

mRNA Refseq


NM_013650

Protein Refseq


NP_038678

UniProt ID

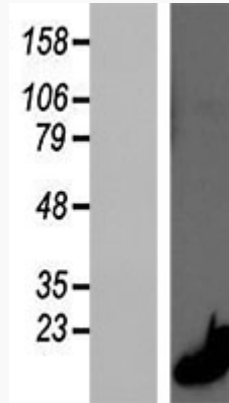
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SDS-PAGE



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