

Active Recombinant Human S100A9 protein

Cat. No. S100A9-255H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human S100A9(Thr2-Pro114) was expressed in E. coli.
Species	Human
Source	E.coli
ProteinLength	2-114 a.a.
Description	S100A9, also known as MRP14 and Calgranulin B, is an approximately 14 kDa pro-inflammatory protein in the S100 family of calcium binding proteins. It is up-regulated in neutrophils and monocytes at sites of inflammation (e.g. psoriasis, rheumatoid arthritis, cardiac ischemia) and is present at elevated concentrations in rheumatoid arthritis synovial fluid. Human S100A9 contains two EF-hand calcium binding motifs and shares 57% and 62% amino acid sequence identity with mouse and rat S100A9, respectively. S100A9 is a noncovalent homodimer that can also noncovalently heterodimerize with S100A8; in the presence of calcium and zinc, the homodimer and heterodimers will form tetramers. Human S100A9 can be phosphorylated at Thr113 near the C-terminus, a residue which is not conserved in the mouse protein. Human S100A9 can also be modified by S-glutathionylation and oxidation. The S100A8/A9 heterodimer binds to fatty acids such as arachidonic acid, while neither monomer does. S100A9 and the heterodimer promote neutrophil infiltration and degranulation at sites of inflammation and inflammatory cytokine production by monocytes. S100A9 also promotes cartilage matrix destruction in osteoarthritis as well as RAGE-dependent cardiac fibrosis and remodeling. In the brain, the S100A9 homodimer

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

	promotes neuronal cytotoxicity, although this is reduced by its binding to amyloid-beta peptide.
Predicted N Terminal	Thr2
Form	Lyophilized from a 0.2 µm filtered solution in Tris, TCEP and Trehalose.
Bio-activity	Measured by its ability to induce CXCL1/KC secretion by C3H10T1/2 mouse embryonic fibroblast cells. The ED50 for this effect is 0.8-4 µg/mL.
Molecular Mass	Predicted Molecular Mass: 13 kDa SDS-PAGE: 12 kDa, reducing conditions
Endotoxin	<0.1 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 centigrade as supplied. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to -70 centigrade under sterile conditions after reconstitution.
Reconstitution	Reconstitute at 400 µg/mL in water.

GENE INFORMATION

Gene Name	S100A9 S100 calcium binding protein A9 [Homo sapiens]
Official Symbol	S100A9

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Synonyms	S100A9; S100 calcium binding protein A9; CAGB, CFAG, S100 calcium binding protein A9 (calgranulin B) , S100 calcium binding protein A9 (calgranulin B); protein S100-A9; 60B8AG; CGLB; LIAG; MAC387; MIF; MRP14; NIF; P14; MRP-14; calgranulin B; calgranulin-B; calprotectin L1H subunit; leukocyte L1 complex heavy chain; migration inhibitory factor-related protein 14; S100 calcium-binding protein A9 (calgranulin B); CAGB; CFAG; L1AG;
Gene ID	6280
mRNA Refseq	NM_002965
Protein Refseq	NP_002956
MIM	123886
UniProt ID	P06702