

Active Recombinant Full Length Mouse S100A8/S100A9 Heterodimer Protein

Cat. No. Calprotectin-13MFL **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Active Recombinant Full Length Mouse S100A8/S100A9 Heterodimer Protein without tag was expressed in E. coli. Mouse S100A8(Pro2-Glu89) and Mouse S100A9 (Ala2-Lys113)
Species	Mouse
Source	E.coli
ProteinLength	S100A8: 2-89 aa S100A9: 2-113 aa
Description	S100A8 (also known as MRP8, Calgranulin A, and CP-10) and S100A9 (also known as MRP14 and Calgranulin B) are pro-inflammatory members of the S100 family of secreted calcium binding proteins. The 10 kDa S100A8 and 14 kDa S100A9 each contain two EF-hand calcium binding motifs. Mouse S100A8 shares 57 % and 80 % amino acid (aa) sequence identity with human and rat S100A8, respectively. Mouse S100A9 shares 57 % and 79 % amino acid sequence identity with human and rat S100A9, respectively. S100A8 and S100A9 can associate into non-covalent homodimers and 34-35 kDa heterodimers known as S100A8/9 or Calprotectin. The presence of calcium and zinc also induces the formation of the tetramer. S100A8 and S100A9 are up-regulated in neutrophils, monocytes, Schwann cells, and keratinocytes at sites of inflammation. The S100A8/9 heterodimer is elevated in rheumatoid arthritis synovial fluid and in the serum of cardiovascular disease, atopic dermatitis, and psoriatic arthritis patients. It exerts its effects through the receptors

 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

RAGE and TLR4. The heterodimer promotes neutrophil infiltration into sites of inflammation and inflammatory cytokine production by monocytes. It promotes astrocyte proliferation and the suppression of tumor growth by promoting the influx and activation of NK cells. The S100A8/9 heterodimer additionally binds to unsaturated fatty acids such as arachidonic acid, and it sequesters manganese, thereby restricting the growth of Mn-dependent bacteria.

Form	Non-covalent heterodimer, Lyophilized from a 0.2 µm filtered solution in PBS and DTT.
Bio-activity	Measured by its ability to induce IL-6 secretion by A375 human melanoma cells. The ED50 for this effect is 1.5-6 µg/mL.
Endotoxin	< 0.1 EU/µg by LAL
Purity	> 95 % by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie Blue Staining.
Applications	Bioactivity
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.
Shipping	The product is shipped at ambient temperature.
Reconstitution	Reconstitute at 500 µg/mL in PBS.
N-terminal Sequence Analysis	Pro2 (S100A8), Ala2 (S100A9)

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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); p8; B8Ag; CFAG; Caga; MRP8; CP-10; 60B8Ag; protein S100-A8; 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	P27005
Gene Name 2	S100a9 S100 calcium binding protein A9 (calgranulin B) [Mus musculus (house mouse)]
Official Symbol 2	S100a9
Synonyms 2	S100a9; S100 calcium binding protein A9 (calgranulin B); p14; Cagb; GAGB; L1Ag; BEE22; MRP14; 60B8Ag; protein S100-A9; S100 calcium-binding protein A9; leukocyte L1 complex heavy chain; migration inhibitory factor-related protein 14
Gene ID 2	20202

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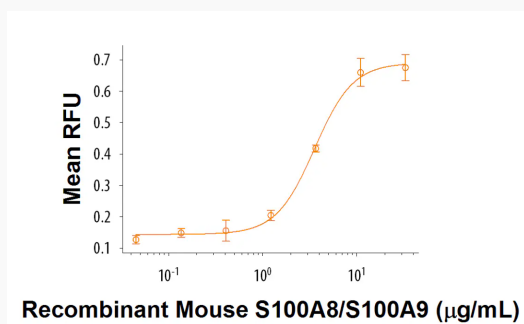
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mRNA Refseq 2 NM_009114

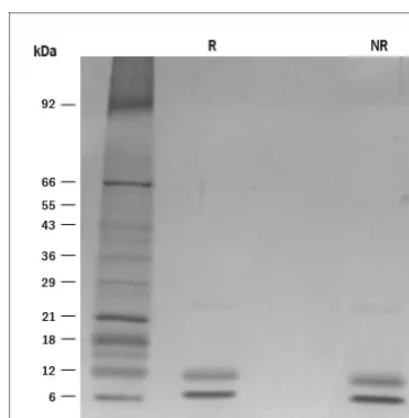
Protein Refseq 2 NP_033140

UniProt ID 2 P31725

Bioactivity



SDS-PAGE



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