



Calprotectin (Carrier-Free) (DAGA-102)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Product Overview	Activity: The ED50 for this effect is typically 1.5-6 µg/mL.
Antigen 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 (1, 2). They are up-regulated in neutrophils and monocytes at sites of inflammation (e.g. psoriasis, rheumatoid arthritis, cardiac ischemia) and are present at elevated concentrations in rheumatoid arthritis synovial fluid (3-5). The 10 kDa human S100A8 and 14 kDa S100A9 each contain two EF-hand calcium binding motifs. Human S100A8 shares 57% and 61% amino acid (aa) sequence identity with mouse and rat S100A8, respectively. Human S100A9 shares 57% and 62% amino acid sequence identity with mouse and rat S100A9, respectively (6, 7). In the presence of calcium or zinc, S100A8 and S100A9 associate into non-covalent homodimers and 34-35 kDa heterodimers with each other (8-10). The heterodimer additionally binds and sequesters manganese, thereby restricting the growth of Mn-dependent bacteria (11). The S100A8/A9 heterodimer exhibits functions beyond those performed by the individual proteins. These include binding to fatty acids such as arachidonic acid and promoting astrocyte proliferation (3, 12). S100A8, S100A9, and the heterodimer each promote neutrophil infiltration into sites of inflammation and inflammatory cytokine production by monocytes (4, 5, 9).
Species	Human
Purity	>95%, by SDS-PAGE with silver staining.
Conjugate	Unconjugated
Applications	N/A
Molecular Weight	S100A8: 11 kDa; S100A9: 13 kDa
Reconstitution	Reconstitute at 500 µg/mL in sterile PBS.

Endotoxin	<0.10 EU per 1 µg of the protein by the LAL method.
Format	Lyophilized
Size	50 µg
Buffer	Lyophilized from a 0.2 µm filtered solution in PBS and DTT.
Preservative	None
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 3 months, -20 to -70 °C under sterile conditions after reconstitution.
Ship	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

BACKGROUND

Keywords	Calprotectin; Human S100A8 (Myeloid-related protein, MRP 8); S100A9 (MRP14); calgranulin A and B; L1; cystic fibrosis antigen; 27E10 antigen; P8; MIF; NIF; CAGA; CFAG; CGLA; L1Ag; MRP8; CP-10; MA387; 60B8AG
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