



Recombinant Protein Technical Manual

Recombinant Human S100A12/CAGC Protein

RPES5152

Product Data:

Product SKU: RPES5152

Size: 10µg

Species: Human

Expression host: E. coli

Uniprot: P80511

Protein Information:

Molecular Mass: 10.6 kDa

AP Molecular Mass: 11 kDa

Tag:

Bio-activity:

Purity: > 95% as determined by reducing SDS-PAGE.

Endotoxin: < 1.0 EU per µg as determined by the LAL method.

Storage: Lyophilized protein should be stored at < -20°C, though stable at room temperature for 3 weeks. Reconstituted protein solution can be stored at 4-7°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

Shipping: This product is provided as lyophilized powder which is shipped with ice packs.

Formulation: Lyophilized from a 0.2 µm filtered solution of PBS, pH7.4.

Reconstitution: Please refer to the printed manual for detailed information.

Application:

Synonyms: Protein S100-A12;Calcium-binding protein in amniotic fluid 1;Calgranulin-C;Extracellular newly identified RAGE-binding protein;Migration inhibitory factor-related protein 6;S100 calcium-binding protein A12;Calcitermin;S100A12;CGRP;MRP-6;EN-RAGE

Immunogen Information:

Sequence: Met1-Glu92

Background:

There are at least 21 different S100 proteins and the protein is 100% soluble in ammonium sulfate at neutral pH. S100 proteins play a role in regulation of protein phosphorylation, transcription factors, the dynamics of cytoskeleton constituents, enzyme activities, cell growth and differentiation, and the inflammatory response. S100A12 is characterized by two EF-hand calcium-binding motifs, zinc- and copper-binding protein. S100A12 is a disulfide-linked homodimer and the interface between the two subunits is composed mostly of hydrophobic residues. Its proinflammatory activity involves recruitment of leukocytes, promotion of cytokine and chemokine production, and regulation of leukocyte adhesion and migration. EN-RAGE acts as an alarmin or a danger associated molecular pattern (DAMP) molecule and stimulates innate immune cells via binding to receptor for advanced glycation endproducts (AGER). Binding to AGER activates the MAP-kinase and NF-kappa-B signaling pathways leading to production of proinflammatory cytokines and up-regulation of cell adhesion molecules ICAM1 and VCAM1. It also acts as a monocyte and mast cell chemoattractant. Moreover, it can stimulate mast cell degranulation and activation which generates chemokines, histamine and cytokines inducing further leukocyte recruitment to the sites of inflammation. It can inhibit the activity of matrix metalloproteinases; MMP2, MMP3 and MMP9 by chelating Zn²⁺ from their active sites.