



Serum Amyloid A (APO-SAA1), human recombinant (rhuSAA1)

Catalog No: 99950
Lot No: XXXXX
Source: *E. coli*
Synonyms: Serum amyloid A protein, SAA, Amyloid protein A, Amyloid fibril protein AA, SAA1, SAA2, PIG4, TP53I4, MGC111216

Background

Serum amyloid A1 (SAA1) protein is an acute phase apolipoprotein reactant which is produced mostly by hepatocytes and under regulation of inflammatory cytokines. SAA1 protein is produced mainly in the liver and circulates in low levels in the blood. The SAA1 seems to play a role in the immune system. SAA1 protein levels increase in the blood and other tissues under conditions of inflammation. SAA1 may facilitate the repair of injured tissues. It also acts as an antibacterial agent and signals the migration of germ-fighting cells to sites of infection. SAA1 also functions as an apolipoprotein of the HDL complex. Elevated levels of SAA1 ultimately affect secondary amyloidosis, extracellular amassing of amyloid fibrils resulting from a circulating precursor, in a variety of tissues and organs. The most widespread type of amyloidosis appears secondary to chronic inflammatory diseases, mainly rheumatoid arthritis. The SAA1 cleavage product, a designated amyloid protein A, is deposited systemically as amyloid in vital organs such as the liver, spleen, and kidneys in chronic inflammatory disease patients. These deposits are extremely insoluble and resistant to proteolysis. They disrupt tissue structure and compromise performance.

Description

SAA1 Human Recombinant, produced in *E. coli*, is a single, non-glycosylated polypeptide chain containing 104 amino acids. It has a molecular mass of 11.7 kDa. The SAA1 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered, white, lyophilized (freeze-dried) powder.

Formulation

SAA1 was lyophilized from a 0.2 µm filtered concentrated solution in 20 mM Tris-HCl (pH 8.5) and 150 mM NaCl.

Solubility

It is recommended to reconstitute the lyophilized SAA1 in sterile 18 MΩ-cm H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized SAA1, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution SAA1 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Amino Acid Sequence

RSFFSFLGEA FDGARDMWRA YSDMREANYI GSDKYFHARG NYDAAKRGPG GVWAAEAISD ARENIQRFFG HGAEDSLADQ
AANEWGRSGK DPNHFRPAGL PEKY

Activity

The biological activity, determined by a chemoattractant bioassay using human monocytes, is in a concentration range of 10-100 ng/ml.

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