

SLPI Protein, Human (107a.a, Sf9, His)

Cat. No.:	HY-P73414
Synonyms:	Antileukoproteinase; ALP; BLPI; SLPI; MPI; WAP4; WFDC4
Species:	Human
Source:	Sf9 insect cells
Accession:	P03973 (S26-A132)
Gene ID:	6590
Molecular Weight:	Approximately 19 kDa

PROPERTIES

Biological Activity	Measured by its ability to inhibit trypsin cleavage of a fluorogenic peptide substrate Mca-RPKPVE-Nval-WRK (Dnp)-NH ₂ and the IC ₅₀ value is <1 Nm.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM Tris, 500 mM NaCl, pH 7.4, 10% Glycerol. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

SLPI, an acid-stable proteinase inhibitor, exhibits robust affinities for trypsin, chymotrypsin, elastase, and cathepsin G, as demonstrated in various studies. It plays a crucial role in modulating inflammatory and immune responses following bacterial infection, as well as infection by the intracellular parasite *L.major*. Additionally, SLPI contributes to down-regulating responses to bacterial lipopolysaccharide (LPS) (By similarity) and is involved in regulating the activation of NF-κappa-B, thereby influencing inflammatory responses. Notably, SLPI exhibits antimicrobial activity against mycobacteria but not against salmonella, contributing to normal resistance against infection by *M.tuberculosis*. It is also essential for normal resistance to infection by *L.major* and plays a critical role in wound healing, likely by preventing tissue damage through the regulation of protease activity (By similarity). Furthermore, in collaboration with ELANE, SLPI is required for the normal differentiation and proliferation of bone marrow myeloid cells, and it interacts with GRN, protecting progranulin from proteolysis.

Caution: Product has not been fully validated for medical applications. For research use only.

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