

Animal-Free IP-10/CXCL10 Protein, Human (His)

Cat. No.:	HY-P700041AF
Synonyms:	IP-10/CXCL10; C-X-C motif chemokine 10; Gamma-IP10; Mob-1
Species:	Human
Source:	E. coli
Accession:	P02778 (V22-P98)
Gene ID:	3627
Molecular Weight:	Approximately 9.45 kDa

PROPERTIES

AA Sequence	V P L S R T V R C T C I S I S N Q P V N P R S L E K L E I I P A S Q F C P R V E I I A T M K K K G E K R C L N P E S K A I K N L L K A V S K E R S K R S P
Biological Activity	Measure by its ability to chemoattract BaF3 cells transfected with human CXCR3. The ED ₅₀ for this effect is < 0.15 µg/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a solution containing 1X PBS, pH 7.4, trehalose.
Endotoxin Level	<0.1 EU per 1 µg of the protein by the LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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	IP-10 (CXCL10), a pro-inflammatory cytokine, is implicated in a diverse array of biological processes, including chemotaxis, differentiation, and activation of peripheral immune cells, regulation of cell growth, apoptosis, and modulation of angiostatic effects. Notably, during viral infections, IP-10 plays a pivotal role by stimulating the activation and migration of immune cells to the infected sites. Mechanistically, the binding of CXCL10 to the CXCR3 receptor activates G protein-mediated signaling, leading to downstream activation of the phospholipase C-dependent pathway, an increase in intracellular calcium production, and actin reorganization. This cascade results in the recruitment of activated Th1 lymphocytes to sites of inflammation. The CXCL10/CXCR3 axis also holds significance in neurons, responding to brain injury by activating microglia—the resident macrophage population of the central nervous system—and guiding them to the lesion
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site, a crucial element for neuronal reorganization. IP-10 exists in monomeric, dimeric, and tetrameric forms and interacts with CXCR3, specifically through its N-terminus.

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

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