IL-1 alpha Protein, Human (HEK293, Fc)

Cat. No.:	HY-P700290
Synonyms:	Interleukin-1 Alpha; IL-1 Alpha; Hematopoietin-1; IL1A; IL1F1;
Species:	Human
Source:	HEK293
Accession:	P01583 (S113-A271)
Gene ID:	3552
Molecular Weight:	54 KDa

PROPERTIES

AA Sequence	S A P F S F L S N V K Y N F M R I I K Y E F I L N D A L N Q S I I R A N D Q Y L T A A A L H N L D E A V K F D M G A Y K S S K D D A K I T V I L R I S K T Q L Y V T A Q D E D Q P V L L K E M P E I P K T I T G S E T N L L F F W E T H G T K N Y F T S V A H P N L F I A T K Q D Y W V C L A G G P P S I T D F Q I L E N Q A
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM Tris-HCl, 150 mM NaCl, pH 7.5.
Endotoxin Level	Less than 1 EU/μg as determined by LAL test.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. 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	Interleukin-1 alpha (IL-1 alpha), a cytokine consistently found intracellularly in nearly all quiescent non-hematopoietic cells, plays a pivotal role in inflammation and serves as a crucial link between the innate and adaptive immune systems. Upon binding to its receptor IL1R1, in conjunction with its accessory protein IL1RAP, IL-1 alpha forms the high-affinity interleukin-1 receptor complex. This complex initiates signaling cascades involving the recruitment of adapter molecules such as MYD88, IRAK1, or IRAK4, subsequently leading to the activation of NF-kappa-B and the three MAPK pathways—p38, p42/p44, and JNK pathways. Intracellularly, IL-1 alpha acts as an alarmin, and its release into the extracellular space upon cell death, following cell membrane disruption, induces inflammation and signals the host response to injury or damage. Beyond its role as a danger signal released during cell necrosis, IL-1 alpha also directly senses DNA damage, serving as a signal for

	genotoxic stress without compromising cell integrity. Moreover, IL-1 alpha's interactions with proteins such as TMED10, IL1R1, and S100A13 contribute to its regulatory mechanisms, mediating translocation, secretion, and export processes.

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