

IL-1 alpha Protein, Rhesus macaque

Cat. No.:	HY-P71866
Synonyms:	IL1A; Interleukin-1 alpha; IL-1 alpha; Hematopoietin-1
Species:	Rhesus Macaque
Source:	E. coli
Accession:	P48089 (S113-A271)
Gene ID:	700193
Molecular Weight:	Approximately 18.1 kDa

PROPERTIES

AA Sequence	<p>S A P F S F L S N M T Y H F I R I I K H E F I L N D T L N Q T I I R A N D Q H L</p> <p>T A A A I H N L D E A V K F D M G A Y T S S K D D T K V P V I L R I S K T Q L Y</p> <p>V S A Q D E D Q P V L L K E M P E I N K T I T G S E T N F L F F W E T H G T K N</p> <p>Y F I S V A H P N L F I A T K H D N W V C L A K G L P S I T D F Q I L E N Q A</p>
Biological Activity	<p>1. Fully biologically active when compared to standard. The ED₅₀ as determined by a cell proliferation assay using murine D10S cells is less than 10 pg/mL, corresponding to a specific activity of >1.0x10⁸ IU/mg.</p> <p>2. Measured in a cell proliferation assay using CTLL-2 cells. The ED₅₀ for this effect is 19.28 pg/mL, corresponding to a specific activity is 5.187x10⁷ U/mg.</p>
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm solution of PBS, pH 7.4.
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 sterile distilled water.
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	<p>The IL-1 alpha protein, a cytokine intrinsically present in almost all quiescent non-hematopoietic cells, plays a pivotal role in inflammation, serving as a crucial link between the innate and adaptive immune systems. Upon binding to its receptor IL1R1, alongside its accessory protein IL1RAP, IL-1 alpha forms the high-affinity interleukin-1 receptor complex, initiating signaling pathways that involve the recruitment of adapter molecules such as MYD88, IRAK1, or IRAK4. This, in turn,</p>
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activates NF-kappa-B and three MAPK pathways—p38, p42/p44, and JNK pathways. Internally, IL-1 alpha acts as an alarmin, being released into the extracellular space after cell membrane disruption during cell death, thereby inducing inflammation and signaling the host to injury or damage. Beyond its role as a danger signal released during cell necrosis, IL-1 alpha directly senses DNA damage and functions as a signal for genotoxic stress without compromising cell integrity. As a monomer, IL-1 alpha interacts with TMED10, facilitating its translocation from the cytoplasm to the endoplasmic reticulum-Golgi intermediate compartment (ERGIC) for secretion. Additionally, it interacts with IL1R1 and S100A13, the latter being the initial step in IL-1 alpha export, followed by the direct translocation of this complex across the plasma membrane.

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

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