

IL-1 alpha Protein, Cynomolgus (HEK293, His)

Cat. No.:	HY-P700739
Synonyms:	Interleukin-1 alpha; IL-1 alpha; Hematopoietin-1; IL1A; IL1F1; IL-1 ALPHA; IL1 α ; IL-1A; IL1
Species:	Cynomolgus
Source:	HEK293
Accession:	P79340 (S113-A271)
Gene ID:	101926546
Molecular Weight:	25-35 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μ m filtered solution of PBS, pH 7.4. Normally 8% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/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	<p>IL-1 alpha, a cytokine consistently present intracellularly in nearly all quiescent non-hematopoietic cells, serves a crucial role in inflammation and acts as a nexus between the innate and adaptive immune systems. Upon binding to its receptor IL1R1, accompanied by its accessory protein IL1RAP, IL-1 alpha forms the high-affinity interleukin-1 receptor complex, initiating signaling cascades that recruit adapter molecules like MYD88, IRAK1, or IRAK4. Consequently, it mediates the activation of NF-kappa-B and three MAPK pathways—p38, p42/p44, and JNK pathways. Functioning as an alarmin within the cell, IL-1 alpha is liberated into the extracellular space upon cell death, induced by disruption of the cell membrane, thereby triggering inflammation and alerting the host to injury or damage. Beyond its role as a danger signal during passive release through cell necrosis, IL-1 alpha directly senses DNA damage, acting as a signal for genotoxic stress without compromising cell integrity. Present as a monomer, IL-1 alpha interacts with TMED10, facilitating its translocation from the cytoplasm into the endoplasmic reticulum-Golgi intermediate compartment (ERGIC) for secretion. It also interacts with IL1R1 and S100A13, the latter marking the initial step in IL-1 alpha export, followed by the direct translocation of this complex across the plasma membrane.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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