

## Animal-Free IL-36 alpha/IL-1F6 Protein, Mouse (His)

<b>Cat. No.:</b>	HY-P700210AF
<b>Synonyms:</b>	Il36a; Fil1e; Il1e; Il1f6; Il1h1Interleukin-36 alpha; FIL1 epsilon; Interleukin-1 epsilon; IL-1 epsilon; Interleukin-1 family member 6; IL-1F6; Interleukin-1 homolog 1; IL-1H1
<b>Species:</b>	Mouse
<b>Source:</b>	E. coli
<b>Accession:</b>	Q9JLA2 (M1-H160)
<b>Gene ID:</b>	54448
<b>Molecular Weight:</b>	Approximately 18.82 kDa

### PROPERTIES

<b>AA Sequence</b>	<pre> M N K E K E L R A A   S P S L R H V Q D L   S S R V W I L Q N N   I L T A V P R K E Q T V P V T I T L L P   C Q Y L D T L E T N   R G D P T Y M G V Q   R P M S C L F C T K D G E Q P V L Q L G   E G N I M E M Y N K   K E P V K A S L F Y   H K K S G T T S T F E S A A F P G W F I   A V C S K G S C P L   I L T Q E L G E I F   I T D F E M I V V H           </pre>
<b>Biological Activity</b>	Measure by its ability to induce IL-6 secretion in 3T3 cells. The ED <sub>50</sub> for this effect is <15 ng/mL. The specific activity of recombinant mouse IL-36 alpha is >1 x 10 <sup>5</sup> IU/mg.
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a solution containing 1X PBS, pH 7.4.
<b>Endotoxin Level</b>	<0.1 EU per 1 µg of the protein by the LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	IL-36 alpha protein, a cytokine, binds to and signals through the IL1RL2/IL-36R receptor, activating NF-kappa-B and MAPK signaling pathways in target cells, thereby contributing to a pro-inflammatory response. As part of the IL-36 signaling system present in epithelial barriers and sharing similarities with the IL-1 system, IL-36 alpha seems integral to local inflammatory responses. It plays a crucial role in the skin inflammatory response by influencing keratinocytes, dendritic cells, and indirectly impacting T-cells, driving tissue infiltration, cell maturation, and proliferation. IL-36 alpha induces the production of various pro-inflammatory cytokines, including IL-12, IL-1 beta, IL-6, TNF-alpha, and IL-23 in bone marrow-
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derived dendritic cells (BMDCs), contributing to dendritic cell maturation by stimulating the surface expression of CD80, CD86, and MHC class II. Additionally, IL-36 alpha induces the production of IFN-gamma, IL-4, and IL-17 in cultured CD4(+) T-cells and splenocytes, possibly playing a role in T-cell maturation and proliferation. Its involvement in pro-inflammatory effects extends to the lung, where it induces the expression of CXCL1 and CXCL2 and the expression of TNF-alpha, IL-36c, IL-1A, IL-1B, CXCL1, and CXCL2 in isolated splenic CD11c(+) alveolar macrophages. IL-36 alpha may also be involved in T-cell maturation by stimulating the surface expression of CD40, CD80, and CD86 in splenic CD11c(+) cells. Furthermore, IL-36 alpha induces NF-kappa B activation in macrophages, and its interaction with TMED10 mediates translocation from the cytoplasm into the endoplasmic reticulum-Golgi intermediate compartment (ERGIC), facilitating secretion.

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

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