

## Animal-Free IL-11 Protein, Human (His)

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|--------------------------|--------------------------------------|
| <b>Cat. No.:</b>         | HY-P700098AF                         |
| <b>Synonyms:</b>         | Adipogenesis inhibitory factor; AGIF |
| <b>Species:</b>          | Human                                |
| <b>Source:</b>           | E. coli                              |
| <b>Accession:</b>        | P20809 (P22-L199)                    |
| <b>Gene ID:</b>          | 3589                                 |
| <b>Molecular Weight:</b> | Approximately 19.95 kDa              |

### PROPERTIES

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|--------------------------------|---|
| <b>AA Sequence</b>             | <p>           P G P P P G P P R V    S P D P R A E L D S    T V L L T R S L L A    D T R Q L A A Q L R<br/>           D K F P A D G D H N    L D S L P T L A M S    A G A L G A L Q L P    G V L T R L R A D L<br/>           L S Y L R H V Q W L    R R A G G S S L K T    L E P E L G T L Q A    R L D R L L R R L Q<br/>           L L M S R L A L P Q    P P P D P P A P P L    A P P S S A W G G I    R A A H A I L G G L<br/>           H L T L D W A V R G    L L L L K T R L         </p> |
| <b>Biological Activity</b>     | Measure by its ability to induce T11 cells proliferation. The ED <sub>50</sub> for this effect is <0.2 ng/mL. The specific activity of recombinant human IL-11 is approximately >1 x 10 <sup>7</sup> IU/mg.   |
| <b>Appearance</b>              | Lyophilized powder.   |
| <b>Formulation</b>             | Lyophilized from a solution containing 1X PBS, pH 8.0.  |
| <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

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| <b>Background</b> | IL-11 Protein emerges as a multifaceted cytokine, orchestrating crucial biological processes. It stimulates the proliferation of hematopoietic stem cells and megakaryocyte progenitor cells, culminating in the maturation of megakaryocytes and augmented platelet production. Additionally, IL-11 plays a pivotal role in liver regeneration by promoting hepatocyte proliferation in response to damage. Its binding to a receptor complex, composed of IL6ST and IL11RA, initiates a signaling cascade that fuels cellular proliferation. This interaction activates intracellular protein kinases and triggers the |
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phosphorylation of STAT3. Notably, IL-11 exhibits versatility in signaling modalities: it engages in 'classic signaling' upon interaction with membrane-bound IL11RA and IL6ST, and alternatively, it participates in 'trans-signaling' when binding to IL6ST in conjunction with soluble IL11RA. The intricate interplay of IL-11 and its receptors, IL11RA and IL6ST, forms a multimeric signaling complex with far-reaching implications for diverse physiological responses.

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

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