Animal-Free IL-5 Protein, Mouse (His)

Cat. No.:	HY-P700215AF
Synonyms:	Interleukin-5; IL-5; B-cell differentiation factor I; EosinophIL differentiation factor; T-cell replacing factor; TRF; IL5
Species:	Mouse
Source:	E. coli
Accession:	P04401 (M21-G133)
Gene ID:	16191
Molecular Weight:	Approximately 13.93 kDa

PROPERTIES

AA Sequence	M E I P M S T V V K E T L T Q L S A H R A L L T S N E T M R L P V P T H K N H Q L C I G E I F Q G L D I L K N Q T V R G G T V E M L F Q N L S L I K K Y I D R Q K E K C G E E R R R T R Q F L D Y L Q E F L G V M S T E W A M E G
Biological Activity	Measure by its ability to induce TF-1 cells proliferation. The ED_{50} for this effect is <0.2 ng/mL. The specific activity of recombinant mouse IL-5 is > 5 x 10^6 IU/mg
Appearance	Lyophilized powder.
Formulation	Lyophilized from a solution containing 1X PBS, pH 7.4.
Endotoxin Level	<0.1 EU per 1 μg of the protein by the LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
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	IL-5 Protein, a homodimeric cytokine predominantly expressed by T-lymphocytes and NK cells, plays a pivotal role in the regulation of eosinophils by influencing their survival, differentiation, and chemotaxis. Additionally, IL-5 acts on both activated and resting B-cells, stimulating immunoglobulin production, growth, and differentiation. Mechanistically, the biological effects of IL-5 are mediated through a receptor complex composed of the IL5RA subunit and the cytokine receptor common subunit beta/CSF2RB. Upon binding to the receptor, IL-5 triggers the activation of various kinases, including LYN, SYK, and JAK2, thus propagating signals through the RAS-MAPK and JAK-STAT5 pathways (By similarity). Structurally, IL-5 forms a homodimer that is disulfide-linked and interacts with its receptor components IL5RA and CSF2RB, highlighting the

specificity and complexity of its molecular interactions in orchestrating immune responses.

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