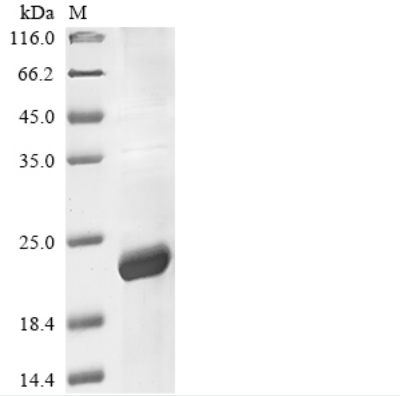
Recombinant Human Interleukin-31 (IL31)

Product Code	CSB-EP735356HU
Abbreviation	Recombinant Human IL31 protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q6EBC2
Product Type	Recombinant Proteins
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	SHTLPVRLLRPSDDVQKIVEELQSLSKMLLKDVEEEKGVLVSQNYTLPCLSPDAQPPNNIHSPAIRAYLKTIRQLDNKSVIDEIIEHLDKLIFQDAPETNISVPTDTHECKRFILTISQQFSECMDLALKSLTSGAQQATT
Research Area	Immunology
Source	E.coli
Target Names	IL31
Protein Names	Recommended name: Interleukin-31 Short name= IL-31
Expression Region	24-164aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged
Mol. Weight	20.6 kDa
Protein Length	Full Length of Mature Protein

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Human Interleukin-31 (IL31) is produced in E. coli and contains the complete mature protein sequence from amino acids 24 to 164. The protein

includes an N-terminal 10xHis-tag and a C-terminal Myc-tag, which help with purification and detection processes. SDS-PAGE analysis shows the protein achieves greater than 85% purity, which appears to provide consistent results in experimental work.

Interleukin-31 is a cytokine that seems to play an important role in immune response regulation. It likely participates in pathways affecting cellular signaling and inflammation, though the exact mechanisms may vary depending on the cellular context. IL31 has drawn considerable attention from researchers studying immune system functions and inflammatory processes. Understanding this protein could advance our knowledge in immunology and related disciplines.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Antibody Development and Validation Studies

This recombinant IL31 protein works well as an immunogen for creating polyclonal or monoclonal antibodies against human IL31. The dual-tag system (N-terminal His-tag and C-terminal Myc-tag) allows researchers to detect and validate purification using tag-specific methods during antibody screening. ELISA-based assays can use this protein to assess antibody specificity, binding affinity, and cross-reactivity patterns. It also functions as a positive control in Western blot analyses and other immunoassays targeting IL31.

2. Protein-Protein Interaction Studies

Researchers can immobilize the His-tagged IL31 on nickel-affinity matrices for pull-down experiments designed to identify potential binding partners or receptor interactions. The dual-tag setup provides flexibility through orthogonal purification and detection approaches in co-immunoprecipitation experiments. Surface plasmon resonance (SPR) or bio-layer interferometry (BLI) studies may use this recombinant protein to examine binding kinetics with known or suspected IL31 receptors. The mature protein sequence (24-164aa) represents what appears to be the biologically active form needed for studying natural protein interactions.

3. Biochemical Characterization and Stability Studies

Various biochemical analyses can be performed on the recombinant IL31 protein, including mass spectrometry, circular dichroism spectroscopy, and dynamic light scattering to examine its molecular properties and folding characteristics. Thermal stability studies using differential scanning fluorimetry or thermal shift assays may help determine the best storage conditions and formulation parameters. The protein is also useful for developing analytical methods like size-exclusion chromatography or reverse-phase HPLC for quality

control in research settings.

4. ELISA Development and Immunoassay Optimization

This dual-tagged IL31 protein can function as either a capture antigen or detection standard when developing sandwich ELISAs for research purposes. The His-tag allows for oriented attachment to nickel-coated plates, while the Myc-tag offers an alternative detection pathway using anti-Myc antibodies. Researchers can use the protein to create standard curves, assess assay sensitivity and specificity, and fine-tune buffer conditions for detecting IL31 in biological samples. It may also serve as a positive control in multiplex immunoassays or Luminex-based detection systems.

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