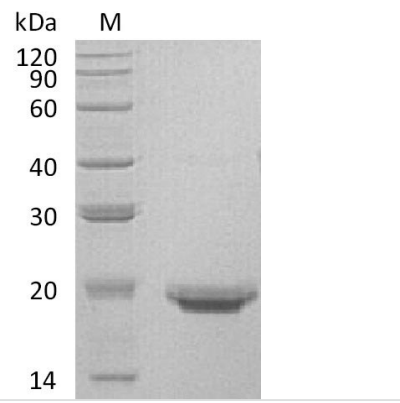
Recombinant Human Interleukin-17F (IL17F) (Active)

Product Code	CSB-AP004461HU
Abbreviation	Recombinant Human IL17F protein (Active)
Uniprot No.	AAH70124.1
Storage Buffer	Lyophilized from a 0.2 μm filtered 20 mM PB, 150 mM NaCl, pH 7.4
Product Type	Interleukins
Immunogen Species	Homo sapiens (Human)
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Mouse IL-17RA-Fc at 1μg/ml can bind Human IL-17F-His, the ED50 of Human IL-17F-His is 47.94 ng/ml.
Purity	Greater than 95% as determined by SDS-PAGE.
Sequence	RKIPKVGHTFFQKPESCPPVPGGSMKLDIGIINENQRVSMSRNIESRSTSPWN YTVTWDPNRYPSEVVQAQCRNLGCINAQGKEDISMNSVPIQQETLVVRRKHQ GCSVSFQLEKVLVTVGCTCVTPVIHRVQ
Research Area	Immunology
Source	Mammalian cell
Target Names	IL17F
Expression Region	31-163aa
Tag Info	C-terminal 6xHis-tagged
Mol. Weight	15.96 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-17F (IL17F) is produced in a mammalian expression system and represents a full-length mature protein with a C-terminal 6xHis tag. The product shows purity greater than 95% as determined by SDS-

PAGE analysis. Biological activity appears confirmed through binding ability in a functional ELISA. Endotoxin levels remain below 1.0 EU/μg, which likely makes it suitable for research applications.

Interleukin-17F (IL17F) is a cytokine that participates in immune responses, mainly produced by activated T cells. It seems to play an important role in inflammatory responses and belongs to the IL-17 family of cytokines, which may be critical for host defense against pathogens. IL17F appears involved in signaling pathways that contribute to inflammation and represents a key area of interest in research related to immune regulation and inflammatory diseases.

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. IL-17 Receptor Binding Studies and Interaction Analysis

This recombinant IL-17F protein can investigate the binding kinetics and affinity between IL-17F and its receptors, particularly IL-17RA as shown by the functional ELISA activity test. Researchers might use surface plasmon resonance, bio-layer interferometry, or similar biophysical techniques to characterize the binding parameters. Comparisons with other IL-17 family members could prove valuable. The C-terminal His-tag appears to simplify immobilization and detection in these binding assays. Studies like these would likely contribute to understanding the molecular basis of IL-17F receptor recognition and specificity.

2. Antibody Development and Characterization

The high purity and biological activity of this IL-17F protein may make it suitable as an immunogen for generating research antibodies. It could also serve as a standard for characterizing existing anti-IL-17F antibodies. The protein might work well in ELISA-based screening of hybridoma clones or in validating antibody specificity and cross-reactivity. His-tag presence allows for easier purification and immobilization for antibody binding assays. Low endotoxin levels suggest minimal interference in cell-based antibody validation experiments.

3. Competitive Binding Assays for IL-17 Family Studies

This recombinant IL-17F could work in competitive binding experiments to study receptor binding preferences among IL-17 family cytokines. Researchers might investigate whether IL-17F competes with IL-17A or other family members for receptor binding sites. The established IL-17RA binding assay could provide a foundation for such work. The defined ED50 value offers a quantitative reference point for designing competition experiments. Studies of this nature would likely help clarify the relative receptor affinities and potential functional

redundancies within the IL-17 cytokine family.

4. Structural and Biochemical Characterization Studies

The mammalian-expressed IL-17F protein with proper folding and biological activity may serve as a substrate for structural biology applications. This includes crystallization trials and NMR studies. The protein's confirmed receptor binding activity suggests proper tertiary structure formation, which could make it suitable for biophysical characterization techniques. Circular dichroism spectroscopy or analytical ultracentrifugation appear to be viable options. The His-tag simplifies purification for these applications while the high purity likely minimizes interference from contaminants in structural analyses.

5. Cell-Free Biochemical Assays and Protein-Protein Interaction Studies

This biologically active IL-17F protein might work in cell-free systems to study downstream signaling pathway components and identify novel IL-17F-interacting proteins. Pull-down experiments using the His-tag could help identify binding partners from cell lysates or purified protein libraries. The low endotoxin content suggests that any observed effects in subsequent cell-based validation experiments are likely due to IL-17F activity rather than contamination. The established binding activity provides confidence that the protein maintains its native conformation for interaction studies.

Endotoxin	Less than 1.0 EU/μg as determined by LAL method.
Shelf Life	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.