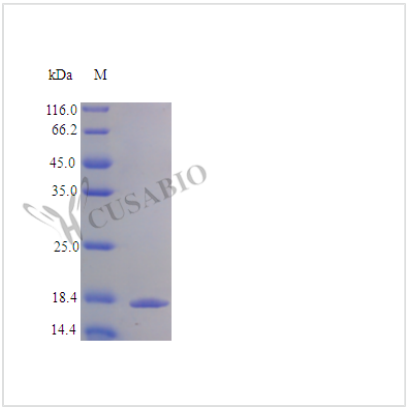
Recombinant Human Interleukin-19 protein (IL19), partial (Active)

Product Code	CSB-AP001861HU
Abbreviation	Recombinant Human IL19 protein, partial (Active)
Uniprot No.	Q9UHD0
Form	Lyophilized powder
Storage Buffer	Lyophilized from a 0.2 μm filtered PBS, pH 7.4
Product Type	Interleukin
Immunogen Species	Homo sapiens (Human)
Biological Activity	Fully biologically active when compared to standard. The ED50 as determined by a cell proliferation assay using human IL-20Rα and human IL-20Rβ co-transfected murine BaF3 pro-B cells is less than 1.5 ng/ml, corresponding to a specific activity of >6.7x10^5 IU/mg.
Purity	>95% as determined by SDS-PAGE.
Sequence	LRRCLISTDM HHIEESFQEI KRAIQAKDTF PNVTILSTLE TLQIIKPLDV CCVTKNLLAF YVDRVFKDHQ EPNPKILRKI SSIANSFLYM QKTLRQCQEQ RQCHCRQEAT NATRVIHDNY DQLEVHAAAI KSLGELDVFL AWINKNHEVM SSA
Research Area	Immunology
Source	E.coli
Target Names	IL19
Expression Region	25-177aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	Tag-Free
Mol. Weight	17.9 kDa
Protein Length	Partial of AF192498
PubMed ID	11196675; 12370360; 19906316; 16710414; 15340161; 12403790
Image	



Description

Recombinant Human Interleukin-19 protein (IL19) is produced in E. coli, covering the expression region 25-177aa. This tag-free protein shows purity exceeding 95%, as verified by SDS-PAGE analysis. Endotoxin levels remain below 1.0 EU/μg as determined by the LAL method. The protein maintains full biological activity, with an ED50 of less than 1.5 ng/ml, determined through a cell proliferation assay—suggesting robust activity.

Interleukin-19 (IL19) belongs to the IL-10 cytokine family and appears to play a key role in immune response modulation. It works by binding to receptor complexes that include IL-20Rα and IL-20Rβ, which may influence the signaling pathways that regulate inflammatory responses. This positions IL19 as a significant protein for research aimed at understanding cytokine-mediated communication within the immune system.

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-20 Receptor Signaling Pathway Studies

This biologically active recombinant IL-19 protein can investigate the IL-20 receptor signaling cascade in vitro, given its demonstrated activity through IL-20Rα and IL-20Rβ receptors. Researchers might study downstream signaling events, including STAT phosphorylation patterns and gene expression changes in receptor-expressing cell lines. The defined ED50 value provides a quantitative reference for dose-response experiments examining receptor binding kinetics and signal transduction mechanisms.

2. Cell Proliferation and Viability Assays

The protein's validated biological activity in BaF3 cell proliferation assays makes it suitable for investigating IL-19's effects on various cell types expressing IL-20 receptors. Scientists can examine proliferative responses in primary cells or established cell lines, particularly those relevant to immune system function. The

high specific activity (>6.7×10? IU/mg) appears to ensure reliable and reproducible results in proliferation-based screening assays, though individual cell line responses may vary.

3. Antibody Development and Validation

This tag-free, high-purity recombinant IL-19 protein serves as an ideal antigen for generating and characterizing anti-IL-19 antibodies for research applications. The protein works well in immunization protocols, ELISA development, and antibody specificity testing. Its preserved biological activity allows for functional antibody screening, potentially helping researchers identify antibodies that block or enhance IL-19 biological function.

4. Protein-Protein Interaction Studies

The biologically active IL-19 protein can be used in binding assays to characterize its interactions with IL-20 receptor subunits and other potential binding partners. Surface plasmon resonance, bio-layer interferometry, or co-immunoprecipitation experiments may help determine binding affinities and kinetic parameters. The low endotoxin level suggests that observed interactions are likely specific to IL-19 rather than contaminating bacterial components.

5. Cytokine Network Analysis

This recombinant IL-19 protein allows researchers to study its role within broader cytokine signaling networks, particularly in the context of IL-20 subfamily interactions. The protein works in multiplex cytokine assays or co-culture experiments to examine how IL-19 influences the production or activity of other cytokines. Such studies might provide insights into the regulatory mechanisms governing immune responses and inflammatory processes in controlled experimental systems, though the complexity of these networks means results may require careful interpretation.

Endotoxin	Less than 1.0 EU/μg as determined by LAL method.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
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.