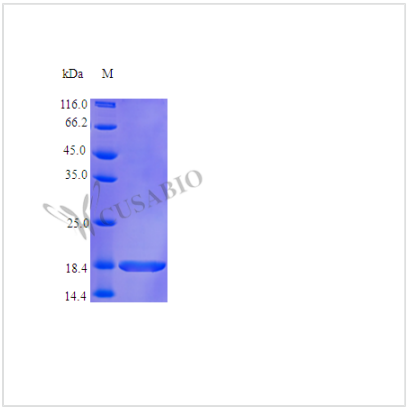
Recombinant Human Interleukin-36 gamma protein (IL36G) (Active)

Product Code	CSB-AP002031HU
Abbreviation	Recombinant Human IL36G protein (Active)
Uniprot No.	Q9NZH8
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 specific activity is determined by its binding ability in a functional ELISA. Immobilized rHuIL-36γ at 1 ug/mL can bind recombinant human IL-1 Rrp2 Fc Chimera with a range of 0.15-5 ug/mL.
Purity	>95% as determined by SDS-PAGE.
Sequence	MRGTPGDADG GGRAVYQSMC KPITGTINDL NQQVWTLQGQ NLVAVPRSDS VTPVTVAVIT CKYPEALEQG RGDPIYLGIQ NPEMCLYCEK VGEQPTLQLK EQKIMDLYGQ PEPVKPFLFY RAKTGRTSTL ESVAFPDWFI ASSKRDQPII LTSELGKSYN TAFELNIND
Research Area	Immunology
Source	E.coli
Target Names	IL36G
Expression Region	1-169aa
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	18.7 kDa
Protein Length	Full Length
PubMed ID	10744718; 11466363; 10860666; 11991722; 12975309; 15815621; 15489334; 20870894; 21965679; 23095752; 23147407; 24829417
Image	



Description

Recombinant Human Interleukin-36 gamma protein (IL36G) is expressed in E. coli, covering the full-length sequence from 1 to 169 amino acids. This tag-free protein achieves high purity levels exceeding 95%, as confirmed by SDS-PAGE analysis. The protein appears to be biologically active, with specific activity validated through functional ELISA, demonstrating its ability to bind recombinant human IL-1 Rrp2 Fc Chimera. Endotoxin levels remain under 1.0 EU/μg, ensuring suitability for research applications.

Interleukin-36 gamma (IL-36γ) belongs to the interleukin-1 family and plays a role in immune response regulation. It participates in inflammatory pathways, contributing to the activation of immune cells such as T-cells and dendritic cells. Research on IL-36γ may be essential for understanding its function in immune processes and its potential implications in 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-36γ/IL-1Rrp2 Receptor Binding Studies

This recombinant IL-36γ protein can help investigate the binding kinetics and affinity between IL-36γ and its receptor IL-1Rrp2 through surface plasmon resonance, bio-layer interferometry, or ELISA-based assays. The demonstrated binding activity with IL-1Rrp2 Fc chimera in the range of 0.15-5 μg/mL provides a validated starting point for dose-response studies. Scientists can characterize the binding parameters, test competitive inhibitors, or evaluate how post-translational modifications affect receptor interaction. High purity and low endotoxin levels make this protein suitable for sensitive binding assays without interference from contaminants.

2. Inflammatory Pathway Signaling Research

Biologically active IL-36γ protein can serve as a positive control or stimulus in

cell-based assays studying inflammatory signaling cascades. Scientists can use this protein to activate IL-36 receptor signaling in relevant cell lines or primary cells to investigate downstream pathways such as NF-κB activation, MAPK signaling, or cytokine production. The defined specific activity through functional ELISA likely ensures reproducible stimulation conditions across experiments. This application appears particularly valuable for studying the role of IL-36γ in innate immune responses and inflammatory disease mechanisms.

3. Antibody Development and Validation

This high-purity, tag-free IL-36γ protein serves as an ideal antigen for developing and characterizing anti-IL-36γ antibodies for research applications. Scientists can use the recombinant protein to immunize animals for polyclonal antibody production or as a screening antigen for monoclonal antibody development. It can also serve as a standard in antibody validation assays including ELISA, Western blot, and immunoprecipitation experiments. The confirmed biological activity suggests that generated antibodies will recognize the native, functional form of the protein.

4. Protein-Protein Interaction Screening

Functionally active IL-36γ protein can be used in pull-down assays, co-immunoprecipitation experiments, or yeast two-hybrid screens to identify novel binding partners beyond the known IL-1Rrp2 receptor. Scientists can immobilize the protein on various matrices to capture interacting proteins from cell lysates or protein libraries. Established binding activity with IL-1Rrp2 provides a positive control for validating experimental conditions. This approach may reveal additional regulatory proteins, co-receptors, or signaling modulators that interact with IL-36γ in different cellular contexts.

5. Structural and Biophysical Characterization Studies

This recombinant IL-36γ protein can be used for detailed structural studies including X-ray crystallography, NMR spectroscopy, or cryo-electron microscopy, particularly in complex with its receptor IL-1Rrp2. High purity and biological activity likely indicate proper protein folding, making it suitable for biophysical analyses such as dynamic light scattering, circular dichroism spectroscopy, or thermal stability assays. Scientists can investigate conformational changes upon receptor binding or study the effects of pH, ionic strength, or other environmental factors on protein stability and structure.

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.