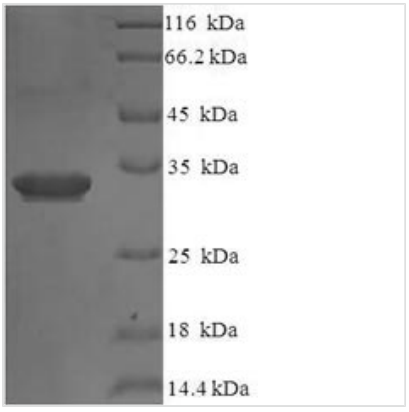
Recombinant Human Interleukin-36 receptor antagonist protein (IL36RN)

Product Code	CSB-EP866201HU
Relevance	Inhibits the activity of interleukin-36 (IL36A,IL36B and IL36G) by binding to receptor IL1RL2 and preventing its association with the coreceptor IL1RAP for signaling. Part of the IL-36 signaling syst that is thought to be present in epithelial barriers and to take part in local inflammatory response; similar to the IL-1 syst with which it shares the coreceptor. Proposed to play a role in skin inflammation. May be involved in the innate immune response to fungal pathogens, such as Aspergillus fumigatus. May activate an anti-inflammatory signaling pathway by recruiting SIGIRR.
Abbreviation	Recombinant Human IL36RN 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.	Q9UBH0
Alias	FIL1 deltaIL-1-related protein 3 ;IL-1RP3Interleukin-1 HY1 ;IL-1HY1Interleukin-1 delta ;IL-1 deltaInterleukin-1 family member 5 ;IL-1F5Interleukin-1 receptor antagonist homolog 1 ;IL-1ra homolog 1Interleukin-1-like protein 1 ;IL-1L1
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MVLSGALCFRMKDSALKVLYLHNNQLLAGGLHAGKVIKGEEISVVPNRWLDAS LSPVILGVQGGSQCLSCGVGQEPTLTLEPVNIMELYLGAKESKSFTFYRRDMG LTSSFESAAYPGWFLCTVPEADQPVRLTQLPENGGWNAPITDFYFQQCD
Research Area	Immunology
Source	E.coli
Target Names	IL36RN
Expression Region	1-155aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-SUMO-tagged
Mol. Weight	33.0kDa
Protein Length	Full Length
Image	



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

Description

Recombinant Human Interleukin-36 receptor antagonist protein (IL36RN) is produced in E. coli with an N-terminal 6xHis-SUMO tag. The full-length protein spans amino acids 1-155 and appears to achieve a purity level greater than 90% as confirmed by SDS-PAGE. While designed for research use, this product may provide reliable reproducibility in experimental applications.

Interleukin-36 receptor antagonist protein (IL36RN) seems to act as a crucial regulator within the immune system, inhibiting the activity of interleukin-36 cytokines. When it binds to the interleukin-36 receptor, IL36RN likely modulates inflammatory responses. This makes it an important focus in studies related to immune regulation and inflammation-associated pathways.

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 IL36RN protein can serve as an immunogen for generating specific antibodies against human IL36RN in research settings. The N-terminal 6xHis-SUMO tag simplifies purification and immobilization for antibody screening assays. The >90% purity level should be sufficient for immunization protocols and subsequent antibody characterization experiments. Scientists can develop monoclonal or polyclonal antibodies for Western blotting, immunoprecipitation, and other immunoassay applications in IL-36 pathway research.

2. Protein-Protein Interaction Studies

Pull-down assays become possible through the 6xHis-SUMO tag, allowing investigation of potential binding partners of IL36RN in cellular lysates or with purified proteins. Scientists can immobilize this recombinant protein on nickel-affinity matrices to capture interacting proteins from biological samples. The full-length expression region (1-155aa) preserves what appears to be the complete

protein structure necessary for physiologically relevant binding interactions. Such studies may help clarify the molecular mechanisms underlying IL36RN function in inflammatory pathways.

3. ELISA Development and Optimization

As a standard or coating antigen in enzyme-linked immunosorbent assays, the recombinant IL36RN protein shows promise for research applications. Its high purity level (>90%) likely ensures consistent and reproducible ELISA results across experiments. The His-tag allows for oriented immobilization on nickel-coated plates, which could potentially improve assay sensitivity and specificity. Scientists can develop sandwich ELISAs or competitive binding assays for studying IL36RN levels in experimental samples.

4. Biochemical Characterization and Stability Studies

This purified recombinant protein enables comprehensive biochemical analysis including thermal stability, pH tolerance, and buffer compatibility studies. Size exclusion chromatography, dynamic light scattering, and other biophysical techniques can characterize the protein's oligomerization state and structural properties. However, the E. coli expression system and SUMO tag may influence protein folding, making this an important control for comparing with native IL36RN properties. These studies provide fundamental insights into IL36RN biochemical behavior under various experimental conditions.

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.