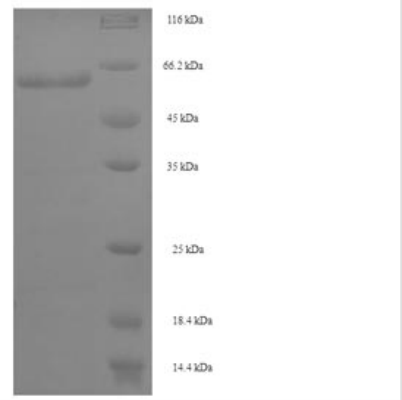
Recombinant Mouse Interferon regulatory factor 8 (Irf8)

Product Code	CSB-EP011823MO
Relevance	Specifically binds to the upstream regulatory region of type I IFN and IFN-inducible MHC class I genes (the interferon consensus sequence (ICS)). Plays a regulatory role in cells of the immune syst. Involved in CD8+ dendritic cell differentiation by forming a complex with the BATF-JUNB heterodimer in immune cells, leading to recognition of AICE sequence (5'-TGAnTCA/GAAA-3'), an immune-specific regulatory elent, followed by cooperative binding of BATF and IRF8 and activation of genes.
Abbreviation	Recombinant Mouse Irf8 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.	P23611
Alias	Interferon consensus sequence-binding protein ;ICSBP
Product Type	Recombinant Protein
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MCDRNGGRRLRQWLIEQIDSSMYPGLIWENDEKTMFRIPWKHAGKQDYNQE VDASIFKAWAVFKGKFKEGDKAEPATWKTRLRCALNKSPDFEEVTDRSQLDIS EPYKVYRIVPEEEQKCKLGVAPAGCMSEVPEMECGRSEIEELIKEPSVDEYMG MTKRSPSPPEACRSQILPDWWVQQPSAGLPLVTGYAAYDTHHSAFSQMVISF YYGGKLVGQATTTCLEGCRLSLSQPGLPKLYGPDGLEPVCFPTADTIPSERQR QVTRKLFGHLERGVLLHSNRKGVFVKRLCQGRVFCSGNAVVCKGRPNKLERD EVVQVFDTNQFIRELQQFYATQSRLPDSRVVLCFGEEFPDTVPLRSKLILVQVE QLYARQLVEEAGKSCGAGSLMPALEEPQPDQAFRMFPDICTSHQRPFFRENQ QITV
Research Area	Others
Source	E.coli
Target Names	Irf8
Protein Names	Recommended name: Interferon regulatory factor 8 Short name= IRF-8 Alternative name(s): Interferon consensus sequence-binding protein Short name= ICSBP
Expression Region	1-424aa
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	64.2kDa
Protein Length	Full Length

Image



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

Description

Recombinant Mouse Interferon regulatory factor 8 (Irf8) is produced in E. coli and includes the complete protein sequence from amino acids 1 to 424. The protein carries an N-terminal 6xHis-SUMO tag that appears to improve both solubility and purification efficiency, reaching purity levels above 90% when verified through SDS-PAGE analysis. This high-quality recombinant protein is intended strictly for research purposes and may support a range of experimental applications.

Interferon regulatory factor 8 (Irf8) seems to play a central role in immune responses, particularly in controlling genes linked to immune cell differentiation and function. This transcription factor is likely crucial for modulating pathways in hematopoietic cells. Its influence on macrophage and dendritic cell development and function makes Irf8 activity essential for understanding immune regulation, with potentially significant implications for immunological research.

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. Protein-Protein Interaction Studies Using Pull-Down Assays

The N-terminal 6xHis-SUMO tag allows researchers to immobilize recombinant mouse Irf8 on nickel-based affinity resins during pull-down experiments. This method may help identify new protein partners that interact with Irf8 in mouse cell lysates or purified protein libraries. Since the full-length protein (1-424aa) retains all potential interaction domains, it appears well-suited for thorough binding studies. The >90% purity should minimize background interference from contaminating proteins during interaction screening.

2. Antibody Development and Validation

The recombinant full-length mouse Irf8 protein works well as an immunogen for creating mouse Irf8-specific antibodies in different species. High purity (>90%) and the complete protein length suggest that resulting antibodies will recognize native epitopes found in endogenous mouse Irf8. Researchers can also use the purified protein as a positive control in Western blotting, ELISA, and other immunoassays to confirm antibody specificity and find optimal working concentrations.

3. Biochemical Characterization and Stability Studies

The purified recombinant protein makes detailed biochemical analysis possible, including thermal stability profiling, pH tolerance testing, and buffer optimization studies. Such experiments may reveal optimal storage conditions and handling protocols for mouse Irf8. However, the E. coli expression system and SUMO tag could affect protein folding, which makes comparative studies with native protein particularly important for understanding any structural differences.

4. Tag-Based Purification Method Development

The 6xHis-SUMO tag system offers a chance to refine and standardize purification protocols for Irf8 family proteins. Researchers might test different elution conditions, buffer systems, and tag removal strategies using SUMO proteases. This protein could serve as a useful model for developing scalable purification workflows that may be applied to other interferon regulatory factor family members or related transcription factors.

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.