

# Recombinant Mouse ISG15 Protein

**For Research Use Only**

## 1. Basic Product Information

Catalog No.: REP51679

Size: 10ug, 100ug

Protein Name: Ubiquitin-like protein ISG15 (Interferon-induced 15 kDa protein) (Interferon-induced 17 kDa protein) (IP17) (Ubiquitin cross-reactive protein)

Synonym: Isg15, G1p2, Ucrp

UniProt ID: Q64339

UniProt Link: [www.uniprot.org/uniprotkb/Q64339/entry](http://www.uniprot.org/uniprotkb/Q64339/entry)

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 161 AA

Molecular Weight: 18 KD

Protein Tag: C-terminal His6

## 2. Amino Acid Sequence

MAWDLKVKMLGGNDFLVSVTNSMTVSELKKQIAQKIGVPAFQQRLAHQTAVLQDGLTLSSLGLGPS  
STVMLVVQNCSEPLSILVRNERGHSNIYEVFLTQTVDTLKKKVSQREQVHEDQFWLSFEGRPMDK  
ELLGEYGLKPQCTVIKHLRLRGGGGDQCA

## 3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

## 4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

## 5. Product Description

This product is recombinant Ubiquitin-like protein ISG15 (Interferon-induced 15 kDa protein) (Interferon-induced 17 kDa protein) (IP17) (Ubiquitin cross-reactive protein) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

**Protein Function:** Ubiquitin-like protein which plays a key role in the innate immune response to viral infection either via its conjugation to a target protein (ISGylation) or via its action as a free or unconjugated protein. ISGylation involves a cascade of enzymatic reactions involving E1, E2, and E3 enzymes which catalyze the conjugation of ISG15 to a lysine residue in the target protein. Its target proteins include SERPINA3G/SPI2A, JAK1, MAPK3/ERK1, PLCG1, TRIM25, STAT5A, MAPK1/ERK2 and globin. ISGylation of the viral sensor IFIH1/MDA5 promotes IFIH1/MDA5 oligomerization and triggers activation of innate immunity against a range of viruses, including coronaviruses, flaviviruses and picornaviruses. Can also isgylate: RIGI which inhibits its function in antiviral signaling response, IRF3 which inhibits its ubiquitination and degradation as well as EIF4E2 which enhances its cap structure-binding activity and translation-inhibition activity. Exhibits antiviral activity towards both DNA and RNA viruses, including influenza A and B virus, Sindbis virus (SV) and herpes simplex type-1 (HHV-1). Plays a significant role in the control of neonatal Chikungunya virus (CHIKV) infection by acting as a putative immunomodulator of pro-inflammatory cytokines. Protects mice against the consequences of Chikungunya virus infection by down-regulating the pathogenic cytokine response, often denoted as the cytokine storm. Plays a role in erythroid differentiation. The secreted form of ISG15 can: induce natural killer cell proliferation, act as a chemotactic factor for neutrophils and act as a IFN-gamma-inducing cytokine playing an essential role in antimycobacterial immunity. The secreted form acts through the integrin ITGAL/ITGB2 receptor to initiate activation of SRC family tyrosine kinases including LYN, HCK and FGR which leads to secretion of IFNG and IL10; the interaction is mediated by ITGAL (By similarity).

**Subcellular Localization:** Cytoplasm . Secreted . Note=Exists in three distinct states: free within the cell, released into the extracellular space, or conjugated to target proteins.

## 6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.