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# Certificate of Analysis and Data Sheet

## Recombinant Human Interferon Stimulated Gene 15

**Catalog No.**  
228-10978

**Source**  
*Escherichia Coli*

### **Synonyms**

ISG15, G1P2, IFI15, UCRP, Interferon-induced 17 kDa protein precursor, ISG15 Ubiquitin-like modifier.

### **Introduction**

ISG15 ubiquitin-like Modifier is conjugated to the intracellular target proteins after IFN-alpha or IFN-beta stimulation. ISG15 enzymatic pathway is partially distinct from that of ubiquitin, differing in substrate specificity and interaction with ligating enzymes. ISG15 conjugation pathway uses a dedicated E1 enzyme, but seems to converge with the ub conjugation pathway at the level of a specific E2 enzyme. ISG15 protein targets include STAT1, SERPINA 3G/SPI2A, JAK1, MAPK3/ERK1, PLCG1, EIF2AK2/PKR, MX1/MXA, and RIG-1. Deconjugated by USP18/UBP43 shows specific chemotactic activity towards neutrophils and activates them to induce release of eosinophil chemotactic factors. ISG15 serves as a trans-acting binding factor directing the association of ligated target proteins to intermediate filaments. ISG15 plays a role in autocrine, paracrine and endocrine mechanisms, as in cell-to-cell signaling, possibly partly by inducing ifn-gamma secretion by monocytes and macrophages. ISG15 displays antiviral activity during viral infections. ISG15 in response to IFN-TAU secreted by the conceptus, ligates to and regulate proteins involved in the release of prostaglandin F2-alpha and thus prevent lysis of the corpus luteum and maintain the pregnancy.

The interferon-stimulated gene having a molecular mass of 15 kDa is an interferon regulated gene that is induced as a primary response to diverse microbial and cell stress stimuli, and encodes the founding member of the ubiquitin-like protein family. ISG15 shares several common properties with other ubiquitin-like molecules, but its activity is strongly regulated by precise signaling pathways that have a role in innate immunity.

### **Description**

ISG15 Human Recombinant fused to N-terminal Calmodulin Tag (151 a.a.) produced in E.Coli is a single, non-glycosylated polypeptide chain containing a total of 308 amino acids (157 a.a. without tag) and having a molecular mass of 34 kDa.

### **Physical Appearance**

Sterile Filtered colorless solution.

**The products are furnished for LABORATORY RESEARCH USE ONLY.  
Not for diagnostic or therapeutic use.**



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### ***Formulation***

The ISG15 solution contains 20mM Tris-HCl pH-8, 100mM NaCl and 1mM DTT.

### ***Stability***

ISG15 although stable 4°C for 4 weeks, should be stored desiccated below -18°C.

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

**Please prevent freeze-thaw cycles.**

### ***Amino Acid Sequence***

MADQLTEEQI AEFKEAFSLF DKDGDGTITT KELGTVMRSL GQNPTEAELQ  
DMINEVDADG NGTIDFPEFL TMMARKMKDT DSEEEIREF RVFDKDGNGY  
ISAAELRHVM TNLGEKLTDE EVDEMIREAD IDGDGQVNYE EFVQMMTAKG  
SMGWDLTVKM LAGNEFQVSL SSSMSVSELK AQITQKIGVH AFQORLAVHP  
SGVALQDRVP LASQGLGPGS TVLLVVDKCD EPLNILVRNN KGRSSTYEVR  
LTQTV AHLKQ QVSGLEGVQD DLFWLT FEGK PLEDQLPLGE YGLKPLSTVF  
MNLRLRGG .

### ***Purity***

Greater than 98.0% as determined by(a) Analysis by RP-HPLC.

(b) Analysis by SDS-PAGE.

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