

ISG15 Human

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.

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

Source: Escherichia Coli.

Physical Appearance: Sterile Filtered colorless solution.

Amino Acid Sequence: MADQLTEEQI AEFKEAFSLF DKDGDGTITT KELGTVMRSL
GQNPTAEALQ DMINEVDADG NGTIDFPEFL TMMARKMKDT DSEEEIREAF RVFDKDGNGY
ISAAELRHVM TNLGEKLTDE EVDEMIREAD IDGDGQVNYE EFVQMMTAKG SMGWDLTVKM
LAGNEFQVSL SSSMSVSELK AQITQKIGVH AFQQRLAVHP SGVALQDRVP LASQGLGPGS
TVLLVVDKCD EP

Purity: Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.

Formulation:

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

Stability:

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

Usage:

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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

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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.



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