Data Sheet (Cat.No.TMPY-02467)

TargetMol

ISG15 Protein, Human, Recombinant (mature form)

General Information

Synonyms:	hUCRP;IP17;IFI15;UCRP;IMD38;G1P2;ISG15 ubiquitin-like modifier
Protein Construction:	A DNA sequence encoding the mature form of human ISG15 (AAH09507.1) (Met 1-Gly 157) was expressed and purified. Predicted N terminal: Met 1
Species:	Human
Expression Host:	E. coli
Accession:	AAH09507.1
Molecular Weight:	17.2 kDa (predicted); 15 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 50 mM Tris, pH 8.0. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Interferon-induced 17 kDa protein (ISG15), a 15-kDa protein of unique primary amino acid sequence, functions intracellularly as a ubiquitin homolog and a cytokine that induces production of IFN-gamma and augments NK / lymphokine-activated killer cell proliferation and function. ISG15 is secreted from monocytes and lymphocytes. ISG15 is a ubiquitin-like molecule that is strongly upregulated by type I interferons as a primary response to diverse microbial and cellular stress stimuli. Alterations in the ISG15 signaling pathway have also been found in

several human tumor entities. In addition to being stimulated by type I interferon, expression of ISG15 is greatly induced by viral or bacterial infection through the Janus kinase/signal transducer and activator of transcription (Jak / STAT) signaling pathway. After induction, ISG15 is secreted by monocytes, B- and T-lymphocytes, and fibroblasts. We demonstrate the novel way in which the function of the ISG15 protein is inhibited by influenza B virus, which strongly induces the ISG15 protein: a specific region of the influenza B virus NS1 protein, which includes part of its effector domain, blocks the covalent linkage of ISG15 to its target proteins both in vitro and in infected cells.

Reference

Cunha J, et al. (1996) In vitro and in vivo secretion of human ISG15, an IFN-induced immunomodulatory cytokine. J Immunol. 157(9): 4100-8.

Andersen JB, et al. (2006) The interferon regulated ubiquitin-like protein, ISG15, in tumorigenesis: friend or foe? Cytokine Growth Factor Rev. 17(6): 411-21.

Nuran Bektas, et al. (2008) The ubiquitin-like molecule interferon-stimulated gene 15 (ISG15) is a potential prognostic marker in human breast cancer. Breast Cancer Res. 10(4): 58.