

Recombinant Human ISG15 Protein(Trx Tag)

Catalog Number: PDEH100590

Note: Centrifuge before opening to ensure complete recovery of vial contents.

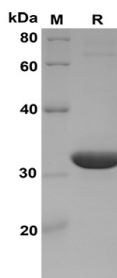
Description

Species	Human
Source	E.coli-derived Human ISG15 protein Met1-Gly157, with an N-terminal Trx
Calculated MW	37 kDa
Observed MW	33 kDa
Accession	P05161
Bio-activity	Not validated for activity

Properties

Purity	> 90% as determined by reducing SDS-PAGE.
Endotoxin	< 10 EU/mg of the protein as determined by the LAL method
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80 °C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

Data



SDS-PAGE analysis of Human ISG15 proteins, 2 µg/lane of Recombinant Human ISG15 proteins was resolved with SDS-PAGE under reducing conditions, showing bands at 33 KD

Background

Interferon-induced 17 KD protein (ISG15), a 15-KD 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.