

ISG15 (3E5): sc-69701

BACKGROUND

Interferon-induced 15 kDa protein (ISG15) acts as ubiquitin by conjugating to intracellular target proteins such as JAK1 or MAPK3/ERK1 through an enzyme pathway distinct from that of ubiquitin. ISG15 shows specific chemotactic activity towards neutrophils and activates them to induce the release of eosinophil chemotactic factors. ISG15 is also involved in paracrine, autocrine and endocrine mechanisms by inducing IFN- γ secretion by monocytes and macrophages, as in cell-to-cell signaling. ISG15 is a cytoplasmic protein expressed mainly in muscle, epithelial, neuronal and lymphoid cells.

REFERENCES

1. Knight, E., Jr., et al. 1991. IFN-induced 15 kDa protein is released from human lymphocytes and monocytes. *J. Immunol.* 146: 2280-2284.
2. Loeb, K.R., et al. 1992. The interferon-inducible 15 kDa ubiquitin homolog conjugates to intracellular proteins. *J. Biol. Chem.* 267: 7806-7813.
3. Kim, K.I., et al. 2003. ISG15, not just another ubiquitin-like protein. *Biochem. Biophys. Res. Commun.* 307: 431-434.
4. Liu, M., et al. 2003. Proteasomes modulate conjugation to the ubiquitin-like protein, ISG15. *J. Biol. Chem.* 278: 1594-1602.
5. Austin, K.J., et al. 2004. Localization of ISG15 and conjugated proteins in bovine endometrium using immunohistochemistry and electron microscopy. *Endocrinology* 145: 967-975.
6. Ritchie, K.J., et al. 2004. Role of ISG15 protease UBP43 (USP18) in innate immunity to viral infection. *Nat. Med.* 10: 1374-1378.
7. Catic, A., et al. 2007. Screen for ISG15-crossreactive deubiquitinases. *PLoS ONE* 2: e679.
8. Rempel, L.A., et al. 2007. Ubp43 gene expression is required for normal ISG15 expression and fetal development. *Reprod. Biol. Endocrinol.* 5: 13.
9. Okumura, F., et al. 2007. ISG15 modification of the eIF4E cognate 4EHP enhances cap structure-binding activity of 4EHP. *Genes Dev.* 21: 255-260.

CHROMOSOMAL LOCATION

Genetic locus: ISG15 (human) mapping to 1p36.33.

SOURCE

ISG15 (3E5) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 1-157 of ISG15 of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

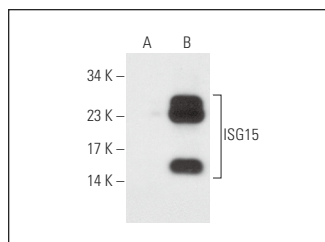
ISG15 (3E5) is recommended for detection of ISG15 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for ISG15 siRNA (h): sc-43869, ISG15 shRNA Plasmid (h): sc-43869-SH and ISG15 shRNA (h) Lentiviral Particles: sc-43869-V.

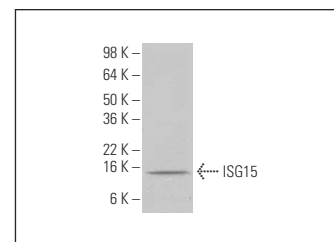
Molecular Weight of ISG15: 15 kDa.

Positive Controls: ISG15 (h): 293T Lysate: sc-174441 or HeLa whole cell lysate: sc-2200.

DATA



ISG15 (3E5): sc-69701. Western blot analysis of ISG15 expression in non-transfected: sc-117752 (A) and human ISG15 transfected: sc-174441 (B) 293T whole cell lysates.



ISG15 (3E5): sc-69701. Western blot analysis of ISG15 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Sung, P.S., et al. 2015. Roles of unphosphorylated ISGF3 in HCV infection and interferon responsiveness. *Proc. Natl. Acad. Sci. USA* 112: 10443-10448.
2. Park, S.Y., et al. 2016. 90K glycoprotein promotes degradation of mutant β -catenin lacking the ISGylation or phosphorylation sites in the N-terminus. *Neoplasia* 18: 618-625.
3. Care, M.A., et al. 2016. Network analysis identifies proinflammatory plasma cell polarization for secretion of ISG15 in human autoimmunity. *J. Immunol.* 197: 1447-1459.
4. Sung, P.S., et al. 2017. IFN- λ 4 potently blocks IFN- α signalling by ISG15 and USP18 in hepatitis C virus infection. *Sci. Rep.* 7: 3821.
5. García-Vílchez, R., et al. 2023. METTL1 promotes tumorigenesis through tRNA-derived fragment biogenesis in prostate cancer. *Mol. Cancer* 22: 119.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



See **ISG15 (F-9): sc-166755** for ISG15 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.