

ISG15 (A-5): sc-166712

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. Ritchie, K.J., et al. 2004. Role of ISG15 protease UBP43 (USP18) in innate immunity to viral infection. *Nat. Med.* 10: 1374-1378.

CHROMOSOMAL LOCATION

Genetic locus: ISG15 (human) mapping to 1p36.33; Isg15 (mouse) mapping to 4 E2.

SOURCE

ISG15 (A-5) is a mouse monoclonal antibody raised against amino acids 1-150 mapping at the N-terminus of ISG15 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ISG15 (A-5) is recommended for detection of ISG15 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

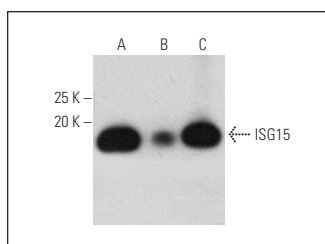
Molecular Weight of ISG15: 15 kDa.

Positive Controls: HT-29 whole cell lysate: sc-364232, RAW 264.7 whole cell lysate: sc-2211 or Sol8 cell lysate: sc-2249.

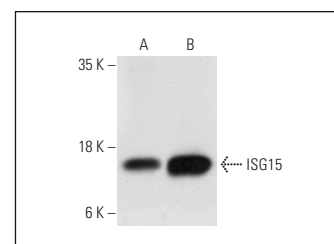
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ISG15 (A-5): sc-166712. Western blot analysis of ISG15 expression in HT-29 (A), RAW 264.7 (B) and Sol8 (C) whole cell lysates.



ISG15 (A-5): sc-166712. Western blot analysis of ISG15 expression in Hep G2 (A) and Jurkat (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chen, Z., et al. 2015. Muscovy duck reovirus infection rapidly activates host innate immune signaling and induces an effective antiviral immune response involving critical interferons. *Vet. Microbiol.* 175: 232-243.
2. Napolitano, A., et al. 2018. Cysteine-reactive free ISG15 generates IL-1 β -producing CD8 α^+ dendritic cells at the site of infection. *J. Immunol.* 201: 604-614.
3. Tunbak, H., et al. 2020. The HUSH complex is a gatekeeper of type I interferon through epigenetic regulation of LINE-1s. *Nat. Commun.* 11: 5387.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CONJUGATES

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.