

#2743 Store at -20°C

## ISG15 Antibody



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<b>Applications:</b> WB, FC-FP, E-P	<b>Reactivity:</b> H M Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 15	<b>Source:</b> Rabbit	<b>UniProt ID:</b> #P05161	<b>Entrez-Gene Id:</b> 9636
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### Product Usage Information

#### Application

Western Blotting  
Flow Cytometry (Fixed/Permeabilized)  
Peptide ELISA (DELFI A)

#### Dilution

1:1000  
1:200  
1:100

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

### Specificity / Sensitivity

This antibody detects endogenous levels of both free and conjugated ISG15 protein. The antibody does not cross-react with other ubiquitin family members, including ubiquitin, SUMO1, SUMO2, SUMO3 and NEDD8.

### Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to amino acids from human ISG15 protein. Antibodies are purified by protein A and peptide affinity chromatography.

### Background

Interferon-stimulated 15 kDa protein (ISG15), also known as ubiquitin cross-reactive protein (UCRP), is a member of the ubiquitin-like protein family and functions in various biological pathways from pregnancy to innate immune responses (1). Expression of ISG15 is stimulated by cellular exposure to type 1 interferons  $\alpha$  and  $\beta$ , in addition to infection with viruses such as influenza B (2,3). After exposure to type I interferons, both lymphocytes and monocytes, in addition to some fibroblasts and epithelial cells, release ISG15 into culture medium (1,4). ISG15 has been shown to function as a cytokine, stimulating interferon  $\gamma$  secretion by monocytes and macrophages, proliferation of natural killer cells, and chemotactic responses in neutrophils (4,5). ISG15 has also been shown to function intracellularly, being covalently conjugated to other proteins by E1 (Ube1L), E2 (UbcH8) and E3 ligases via a multi-step process analogous to ubiquitination (6,7). ISG15 is removed from proteins by the ubiquitin processing protease Ubp43 (8). ISG15-protein conjugation (ISGylation) is induced by type 1 interferons, and target proteins include the serine protease inhibitor Serpin 2A, PLC $\gamma$ 1, ERK1/2, Jak1 and Stat1 (9,10). Unlike ubiquitination, ISGylation does not target proteins for degradation, rather ISGylation increases Jak1 and Stat1 activity, enhancing the cellular response to interferons (11).

### Background References

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### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Western Blot Buffer

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

### Applications Key

**WB:** Western Blotting **FC-FP:** Flow Cytometry (Fixed/Permeabilized) **E-P:** Peptide ELISA (DELFI A)

**Cross-Reactivity Key**

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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