

# Anti-ISG15 Antibody

Rabbit Anti Human Polyclonal Antibody

Catalog # ALS17975

## Product Information

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|-------------------|------------------------|
| Application       | WB, IHC-P, E           |
| Primary Accession | <a href="#">P05161</a> |
| Predicted         | Human                  |
| Host              | Rabbit                 |
| Clonality         | Polyclonal             |
| Isotype           | IgG                    |
| Calculated MW     | 17888                  |

## Additional Information

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|--------------------------|-------------------------------------------------------------------------------------------------------|
| Gene ID                  | 9636                                                                                                  |
| Alias Symbol             | ISG15                                                                                                 |
| Other Names              | ISG15, HUCRP, IFI15, ISG15 ubiquitin-like modifier, G1P2, IP17, Ubiquitin-like protein ISG15, UCRP    |
| Target/Specificity       | Human ISG15                                                                                           |
| Reconstitution & Storage | Caprylic acid and ammonium sulfate precipitation                                                      |
| Precautions              | Anti-ISG15 Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| Name     | ISG15 ( <a href="#">HGNC:4053</a> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Synonyms | G1P2, UCRP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Function | Ubiquitin-like protein which plays a key role in the innate immune response to viral infection either via its conjugation to a target protein (ISGylation) or via its action as a free or unconjugated protein (PubMed: <a href="#">27564865</a> , PubMed: <a href="#">39465252</a> ). ISGylation involves a cascade of enzymatic reactions involving E1, E2, and E3 enzymes which catalyze the conjugation of ISG15 to a lysine residue in the target protein (PubMed: <a href="#">33727702</a> ). Its target proteins include IFIT1, MX1/MxA, PPM1B, UBE2L6, UBA7, CHMP5, CHMP2A, CHMP4B and CHMP6. Isgylation of the viral sensor IFIH1/MDA5 promotes IFIH1/MDA5 oligomerization and triggers activation of innate immunity against a range of viruses, including coronaviruses, flaviviruses and picornaviruses (PubMed: <a href="#">33727702</a> ). Can also isgylate: EIF2AK2/PKR which results in its activation, RIGI which inhibits its function in antiviral signaling response, |

EIF4E2 which enhances its cap structure-binding activity and translation-inhibition activity, UBE2N and UBE2E1 which negatively regulates their activity, IRF3 which inhibits its ubiquitination and degradation and FLNB which prevents its ability to interact with the upstream activators of the JNK cascade thereby inhibiting IFN $\alpha$ -induced JNK signaling. Exhibits antiviral activity towards both DNA and RNA viruses, including influenza A, HIV-1 and Ebola virus. Restricts HIV-1 and ebola virus via disruption of viral budding. Inhibits the ubiquitination of HIV-1 Gag and host TSG101 and disrupts their interaction, thereby preventing assembly and release of virions from infected cells. Inhibits Ebola virus budding mediated by the VP40 protein by disrupting ubiquitin ligase activity of NEDD4 and its ability to ubiquitinate VP40. ISGylates influenza A virus NS1 protein which causes a loss of function of the protein and the inhibition of virus replication. The secreted form of ISG15 can: induce natural killer cell proliferation, act as a chemotactic factor for neutrophils and act as a IFN- $\gamma$ -inducing cytokine playing an essential role in antimycobacterial immunity. The secreted form acts through the integrin ITGAL/ITGB2 receptor to initiate activation of SRC family tyrosine kinases including LYN, HCK and FGR which leads to secretion of IFN $\gamma$  and IL10; the interaction is mediated by ITGAL (PubMed:[29100055](#)).

**Cellular Location**

Cytoplasm. Secreted Note=Exists in three distinct states: free within the cell, released into the extracellular space, or conjugated to target proteins

**Tissue Location**

Detected in lymphoid cells, striated and smooth muscle, several epithelia and neurons. Expressed in neutrophils, monocytes and lymphocytes. Enhanced expression seen in pancreatic adenocarcinoma, endometrial cancer, and bladder cancer, as compared to non-cancerous tissue. In bladder cancer, the increase in expression exhibits a striking positive correlation with more advanced stages of the disease.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.