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KD-Validated Anti-ISG15 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1567

Specification

KD-Validated Anti-ISG15 Rabbit Monoclonal Antibody - Product Information

Application	**WB, ICC**
Primary Accession	P05161
Reactivity	**Human**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 18 kDa , observed , 15 kDa KDa**
Gene Name	**ISG15**
Aliases	**ISG15; ISG15 Ubiquitin Like Modifier; UCRP; IFI15; G1P2; Interferon, Alpha-Inducible Protein (Clone IFI-15K); Ubiquitin Cross-Reactive Protein; Ubiquitin-Like ProteinISG15; HUCRP; IP17; Interferon-Induced 17-KDa/15-KDa Protein; Interferon-Stimulated Protein, 15 KDa; Interferon-Induced 15 KDa Protein; Interferon-Induced 17 KDa Protein; IMD38**
Immunogen	**A synthesized peptide derived from human ISG15**

KD-Validated Anti-ISG15 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**9636**

Other Names
Ubiquitin-like protein ISG15, Interferon-induced 15 kDa protein, Interferon-induced 17 kDa protein, IP17, Ubiquitin cross-reactive protein, hUCRP, ISG15 (HGNC:4053), G1P2, UCRP

KD-Validated Anti-ISG15 Rabbit Monoclonal Antibody - Protein Information

Name ISG15 (HGNC:4053)

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:27564865, PubMed:39465252). 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="http://www.uniprot.org/citations/33727702"

target="_blank">33727702). 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:33727702). 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 IFNA-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 IFNG 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.

KD-Validated Anti-ISG15 Rabbit Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KD-Validated Anti-ISG15 Rabbit Monoclonal Antibody - Images

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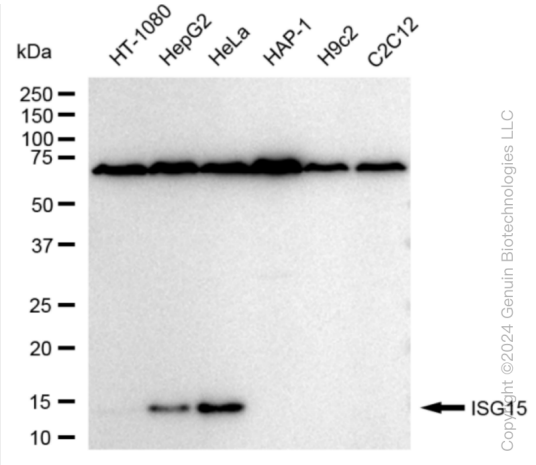
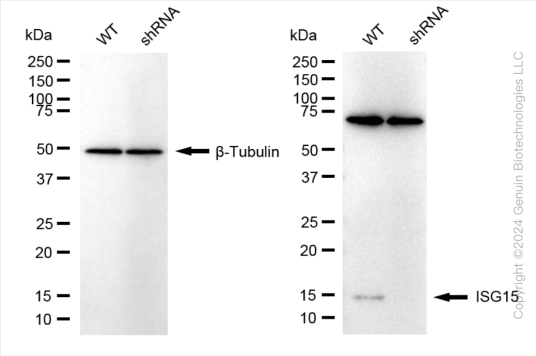
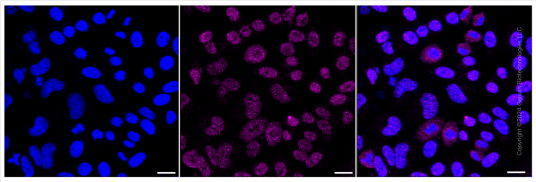


Western blotting analysis using anti-ISG15 antibody (Cat#AGI1567). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-ISG15 antibody (Cat#AGI1567, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-ISG15 antibody (Cat#AGI1567). ISG15 expression in wild-type (WT) and ISG15 shRNA knockdown (KD) HepG2 cells with 20 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with anti-ISG15 antibody (Cat#AGI1567, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Immunocytochemical staining of HepG2 cells with anti-ISG15 antibody (Cat#AGI1567, 1:1,000). Nuclei were stained blue with DAPI; ISG15 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.