

Anti-ISG15 Antibody (2M875)

Product Details

Ig Type:	Rabbit IgG
Reactivity:	Human
Conjugation:	Unconjugated
Clone:	2M875
Purification:	Affinity-chromatography

Applications

1. IHC image of TMAH-00638 diluted at 1:100 and staining in paraffin-embedded human salivary gland tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit polymer IgG labeled by HRP and visualized using 0.05% DAB.

Verified Activity: 2. Overlay Peak curve showing HepG2 cells stained with TMAH-00638 (red line) at 1:100. The cells were fixed in 4% formaldehyde and permeated by 0.2% TritonX-100. Then 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (1 μ g/1*10⁶ cells) for 45min at 4°C. The secondary antibody used was FITC-conjugated Goat Anti-rabbit IgG(H+L) at 1:200 dilution for 35min at 4°C. Control antibody (green line) was rabbit IgG (1 μ g/1*10⁶ cells) used under the same conditions. Acquisition of >10,000 events was performed.

Application: ELISA,FCM,IHC

Recommended IHC:1:50-1:200; FCM:1:50-1:200.

Properties

Stability & Storage: Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.

Shipping: Shipping with blue ice.

Antigen Details

Immunogen:	A synthetic peptide: Human ISG15
Antigen Species:	Human
Gene ID:	9636
Uniprot ID:	P05161
Biology Area:	Epigenetics and Nuclear Signaling, Cell biology

Research Background

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. 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. Its target proteins include IFIT1, MX1/MxA, PPM1B, UBE2L6, UBA7, CHMP5, CHMP2A,

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CHMP4B and CHMP6. Isglylation 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. Can also isglylate: EIF2AK2/PKR which results in its activation, DDX58/RIG-I 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.

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