

IFI-56K Polyclonal Antibody

Catalog # AP70458

Product Information

Application	WB, IHC-P, IF, ICC, E
Primary Accession	P09914
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	55360

Additional Information

Gene ID	3434
Other Names	IFIT1; G10P1; IFI56; IFNAI1; ISG56; Interferon-induced protein with tetratricopeptide repeats 1; IFIT-1; Interferon-induced 56 kDa protein; IFI-56K; P56
Dilution	WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/40000. Not yet tested in other applications. IHC-P~~N/A IF~~1:50~200 ICC~~N/A E~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20°C

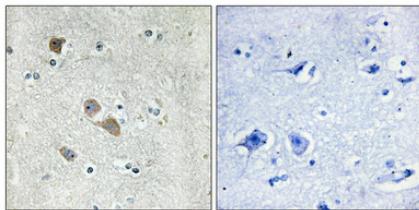
Protein Information

Name	IFIT1 (HGNC:5407)
Function	Plays a key role in the innate immune response as part of an interferon-dependent multiprotein complex, recognizing and sequestering viral RNAs that lack host-specific 2'-O-methylation at their 5' cap. By distinguishing these RNAs from host mRNAs, inhibits their translation by competing with the translation initiation factor eIF4E (PubMed: 21642987 , PubMed: 27240734 , PubMed: 39009378 , PubMed: 23334420 , PubMed: 28251928 , PubMed: 36285486). Could also prevent viral replication through its interaction with DNA replication origin-binding protein E1 of several viruses. Causes the translocation of E1 from the nucleus to the cytoplasm and can also inhibit its helicase activity in vitro (PubMed: 19008854 , PubMed: 21976647). Exhibits antiviral activity against many viruses from the Flaviviridae (West Nile virus, Dengue virus, hepatitis C virus), Coronaviridae (human 229E coronavirus, SARS-CoV-2 and SARS-CoV), Poxviridae (vaccinia virus) and Togaviridae (Sindbis virus) families (PubMed: 19008854 , PubMed: 21976647 , PubMed: 28251928 , PubMed: 36285486).

Background

Interferon-induced antiviral RNA-binding protein that specifically binds single-stranded RNA bearing a 5'-triphosphate group (PPP-RNA), thereby acting as a sensor of viral single-stranded RNAs and inhibiting expression of viral messenger RNAs. Single-stranded PPP-RNAs, which lack 2'-O-methylation of the 5' cap and bear a 5'-triphosphate group instead, are specific from viruses, providing a molecular signature to distinguish between self and non-self mRNAs by the host during viral infection. Directly binds PPP-RNA in a non-sequence-specific manner. Viruses evolved several ways to evade this restriction system such as encoding their own 2'-O-methylase for their mRNAs or by stealing host cap containing the 2'-O-methylation (cap snatching mechanism). Exhibits antiviral activity against several viruses including human papilloma and hepatitis C viruses.

Images



Immunohistochemical analysis of paraffin-embedded Human brain. Antibody was diluted at 1:100(4°,overnight). High-pressure and temperature Tris-EDTA,pH8.0 was used for antigen retrieval. Negative control (right) obtained from antibody was pre-absorbed by immunogen peptide.

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