

CPTC-IFIT1-1 (CAB080338)

Uniprot ID: [P09914](#)

Protein name: IFIT1_HUMAN

Full name: Interferon-induced protein with tetratricopeptide repeats 1

Function: 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.

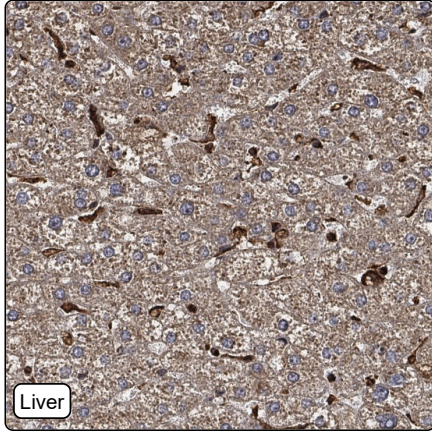
Subcellular location:

Cytoplasm (*experimental evidence*)

Protein existence: Experimental evidence at protein level

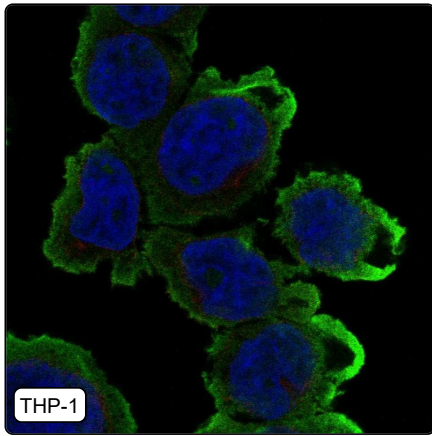
Comment:

Immunohistochemistry



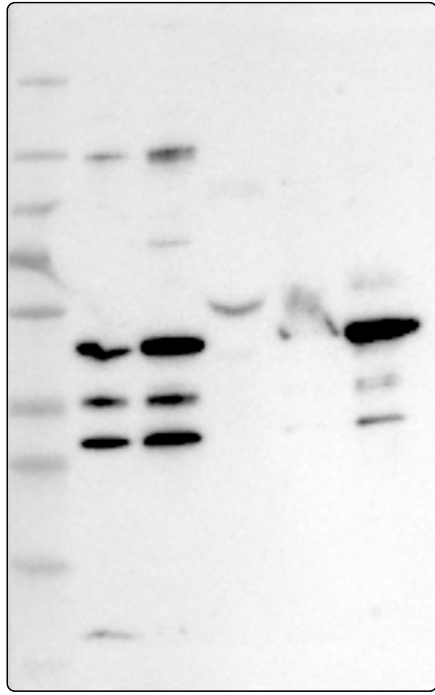
IHC protocol:	HIER pH6, Dilution 1:300
IHC test staining:	Cytoplasmic positivity in most tissues.
Literature conformance:	Consistent with extensive gene/protein characterization data
Literature significance:	
RNA similarity:	Medium consistency between antibody staining and RNA expression data
RNA tissue specificity:	Low tissue specificity
RNA tissue distribution:	Detected in all
IHC Sibling similarity:	Other antibody shows partly similar IHC staining pattern

Immunofluorescence



IF Overlay:	antibody (green), anti-tubulin (red) and DAPI (blue)
IF main location:	Plasma membrane - 12: Uncertain (auto)
IF additional location:	Cytosol - 3: Supportive (auto)
IF approved for publication on HPA:	No
IF in THP-1:	Plasma membrane
IF in U2OS:	Plasma membrane Cytosol

Western blot



WB Size markers (kDa):	250, 130, 100, 70, 55, 35, 25, 15, 10
WB Lanes:	Marker (1), RT-4 (2), U-251MG (3), Plasma (4), Liver (5), Tonsil (6)
WB Target weight (kDa):	52, 55
WB Validation:	Supported (Band of predicted size in kDa (+/-20%) with additional bands present.)