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Anti-ILF3 Antibody

Catalog # AP51283

Product Information

Application	WB, IHC
Primary Accession	Q12906
Reactivity	Human, Mouse, Rat, Chicken, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	95338

Additional Information

Gene ID	3609
Other Names	DRBF; MPHOSPH4; NF90; Interleukin enhancer-binding factor 3; Double-stranded RNA-binding protein 76; DRBP76; M-phase phosphoprotein 4; MPP4; Nuclear factor associated with dsRNA; NFAR; Nuclear factor of activated T-cells 90 kDa; NF-AT-90; Translational control protein 80; TCP80
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human ILF3. The exact sequence is proprietary.
Dilution	WB~~ 1:1000 IHC~~1:100~500
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	ILF3
Synonyms	DRBF, MPHOSPH4, NF90
Function	RNA-binding protein that plays an essential role in the biogenesis of circular RNAs (circRNAs) which are produced by back- splicing circularization of pre-mRNAs. Within the nucleus, promotes circRNAs processing by stabilizing the regulatory elements residing in the flanking introns of the circularized exons. Plays thereby a role in the back-splicing of a subset of circRNAs (PubMed:28625552). As a consequence, participates in a wide range of transcriptional and post- transcriptional processes. Binds to poly-U elements and AU-rich elements (AREs) in the 3'-UTR of target mRNAs (PubMed:14731398). Upon viral infection, ILF3 accumulates in the cytoplasm and participates in the innate antiviral response (PubMed:21123651, PubMed:34110282). Mechanistically, ILF3 becomes phosphorylated and

activated by the double-stranded RNA-activated protein kinase/PKR which releases ILF3 from cellular mature circRNAs. In turn, unbound ILF3 molecules are able to interact with and thus inhibit viral mRNAs (PubMed:21123651, PubMed:28625552).

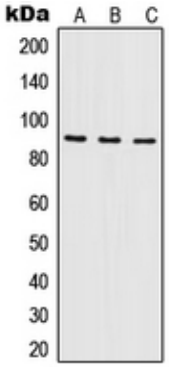
Cellular Location Nucleus, nucleolus. Cytoplasm. Nucleus. Note=Localizes in the cytoplasm in response to viral infection. The unphosphorylated form is retained in the nucleus by ILF2. Phosphorylation at Thr-188 and Thr-315 causes the dissociation of ILF2 from the ILF2-ILF3 complex resulting in a cytoplasmic sequestration of ILF3. Localized in cytoplasmic mRNP granules containing untranslated mRNAs.

Tissue Location Ubiquitous.

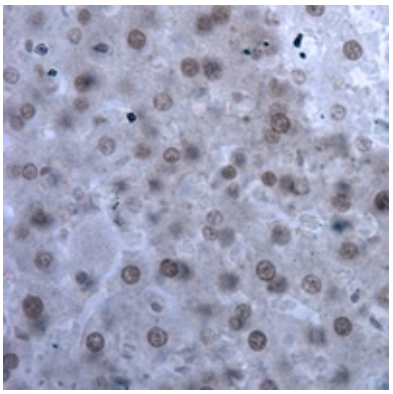
References

Kao P.N.,et al.J. Biol. Chem. 269:20691-20699(1994).
Patel R.C.,et al.J. Biol. Chem. 274:20432-20437(1999).
Xu Y.-H.,et al.Mol. Genet. Metab. 68:441-454(1999).
Duchange N.,et al.Gene 261:345-353(2000).
Saunders L.R.,et al.J. Biol. Chem. 276:32300-32312(2001).

Images



Western blot analysis of ILF3 expression in A431 (A), Raji (B), K562 (C) whole cell lysates. (Predicted band size: 95 kD; Observed band size: 95 kD)



Immunohistochemical analysis of ILF3 staining in rat liver formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

Citations

- NF45 and NF90 Bind HIV-1 RNA and Modulate HIV Gene Expression.

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