10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

phospho-IRF7 (Ser471 + Ser472) Rabbit pAb

phospho-IRF7 (Ser471 + Ser472) Rabbit pAb
Catalog # AP52306

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q92985
Reactivity	Human, Mouse, Rat
Predicted	Pig, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	54278
Physical State	Liquid
Immunogen	KLH conjugated synthesised phosphopeptide derived from human IRF7 around the phosphorylation site of Ser471/472
Epitope Specificity	GV(p-S)(p-S)LD
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Nucleus. Cytoplasm. Note=The phosphorylated and active form accumulates selectively in the nucleus.
SIMILARITY	Belongs to the IRF family.Contains 1 IRF tryptophan pentad repeat DNA-binding domain.
SUBUNIT	Monomer. Homodimer; phosphorylation-induced. Heterodimer with IRF3. Interacts with TICAM1 and TICAM2. Interacts with rotavirus A NSP1; this interaction leads to the proteasome-dependent degradation of IRF7. Interacts with Epstein-Barr virus LF2. Interacts with MYD88 AND TRAF6.
Post-translational modifications	Acetylation inhibits its DNA-binding ability and activity. In response to a viral infection, phosphorylated on Ser-477 and Ser-479 by TBK1 and IKBKE1. Phosphorylation, and subsequent activation is inhibited by vaccinia virus protein E3. In TLR7- and TLR9-mediated signaling pathway, phosphorylated by IRAK1.TRAF6-mediated ubiquitination is required for IRF7 activation (By similarity). Sumoylated by TRIM28, which inhibits its transactivation activity.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	IRF7 encodes interferon regulatory factor 7, a member of the interferon regulatory transcription factor (IRF) family. IRF7 has been shown to play a role in the transcriptional activation of virus-inducible cellular genes, including interferon beta chain genes. Inducible expression of IRF7 is largely restricted to lymphoid tissue. Multiple IRF7 transcript variants have been identified, although the functional consequences of these have not yet been established. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	3665

Other Names	Interferon regulatory factor 7, IRF-7, IRF7
Target/Specificity	Expressed predominantly in spleen, thymus and peripheral blood leukocytes.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	IRF7
Function	Key transcriptional regulator of type I interferon (IFN)- dependent immune responses and plays a critical role in the innate immune response against DNA and RNA viruses (PubMed:28342865, PubMed:28768858). Regulates the transcription of type I IFN genes (IFN- alpha and IFN-beta) and IFN-stimulated genes (ISG) by binding to an interferon-stimulated response element (ISRE) in their promoters (PubMed:17574024, PubMed:32972995). Can efficiently activate both the IFN-beta (IFNB) and the IFN-alpha (IFNA) genes and mediate their induction via both the virus-activated, MyD88-independent pathway and the TLR-activated, MyD88-dependent pathway. Induces transcription of ubiquitin hydrolase USP25 mRNA in response to lipopolysaccharide (LPS) or viral infection in a type I IFN-dependent manner (By similarity). Required during both the early and late phases of the IFN gene induction but is more critical for the late than for the early phase. Exists in an inactive form in the cytoplasm of uninfected cells and following viral infection, double-stranded RNA (dsRNA), or toll-like receptor (TLR) signaling, becomes phosphorylated by IKBKE and TBK1 kinases. This induces a conformational change, leading to its dimerization and nuclear localization where along with other coactivators it can activate transcription of the type I IFN and ISG genes. Can also play a role in regulating adaptive immune responses by inducing PSMB9/LMP2 expression, either directly or through induction of IRF1. Binds to the Q promoter (Qp) of EBV nuclear antigen 1 a (EBNA1) and may play a role in the regulation of EBV latency. Can activate distinct gene expression programs in macrophages and regulate the anti- tumor properties of primary macrophages (By similarity) (PubMed:11073981, PubMed:12374802, PubMed:15361868, PubMed:17404045).
Cellular Location	Nucleus. Cytoplasm. Note=The phosphorylated and active form accumulates selectively in the nucleus
Tissue Location	Expressed predominantly in spleen, thymus and peripheral blood leukocytes

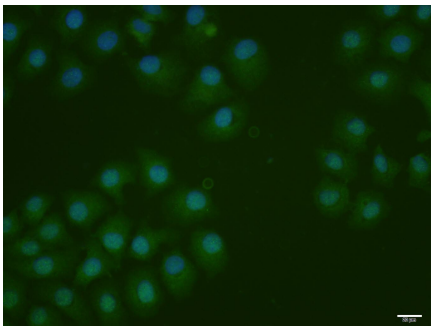
Background

IRF7 encodes interferon regulatory factor 7, a member of the interferon regulatory transcription factor (IRF) family. IRF7 has been shown to play a role in the transcriptional activation of virus-inducible cellular genes, including interferon beta chain genes. Inducible expression of IRF7 is largely restricted to lymphoid tissue. Multiple IRF7 transcript variants have been identified, although the functional consequences of these have not yet been established. [provided by RefSeq, Jul 2008]

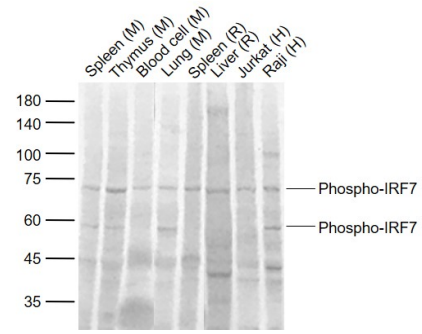
References

Grossman A.,et al.Submitted (OCT-1996) to the EMBL/GenBank/DDBJ databases.
Zhang L.,et al.Mol. Cell. Biol. 17:5748-5757(1997).
Au W.-C.,et al.J. Biol. Chem. 273:29210-29217(1998).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
Marie I.J.,et al.Mol. Cell. Biol. 20:8803-8814(2000).

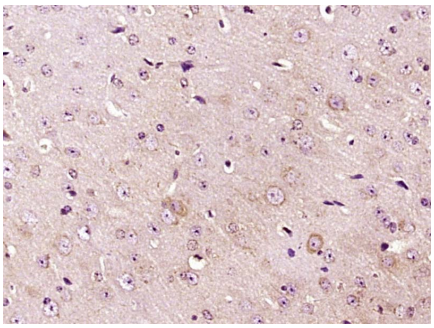
Images



HepG2 cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum, C-0005) at 37°C for 20 min; Antibody incubation with (Phospho-IRF7 (Ser471 + Ser472)) polyclonal Antibody, Unconjugated (AP52306) 1:100, 90 minutes at 37°C; followed by a conjugated Goat Anti-Rabbit IgG antibody at 37°C for 90 minutes, DAPI (blue, C02-04002) was used to stain the cell nuclei.



Sample:
Lane 1: Mouse Spleen tissue lysates
Lane 2: Mouse Thymus tissue lysates
Lane 3: Mouse Blood cell lysates
Lane 4: Mouse Lung tissue lysates
Lane 5: Rat Spleen tissue lysates
Lane 6: Rat Liver tissue lysates
Lane 7: Human Jurkat cell lysates
Lane 8: Human Raji cell lysates
Primary: Anti-Phospho-IRF7 (Ser471 + Ser472) (AP52306) at 1/1000 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 54 kD
Observed band size: 70,55 kD



Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Phospho-IRF7 (Ser471 + Ser472)) Polyclonal Antibody, Unconjugated (AP52306) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.