Anti-Phospho-Ser^{535,539} Interferon-α Receptor, Type I, Subunit I Antibody

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Catalog #: p170-5359 **Size:** 100 µl

Cite this Antibody: PhosphoSolutions Cat# p170-5359, RRID:AB_2492138

Host	Applications	Species Tested	Species Reactivity*	Molecular Weight
Rabbit	WB 1:1000	H	B, C M, NHP, S	~110- 130 kDa

Product Description: Affinity purified rabbit polyclonal antibody.

Biological Significance: Interferons are widely used therapeutic agents because of their antitumor and antiviral effects and because of their modulatory effects on the immune system (Biron, 2001; Kirkwood, 2002). These cytokines produce their effects by binding to the Type 1 Interferon-α Receptor (IFNAR1). Down regulation of this receptor plays a key role in determining the magnitude and duration of cytokine signaling. This down regulation is thought to be influenced by phosphorylation of Serine 535 and 539 in the IFNAR1 (Kumar et al., 2003).

Antigen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser^{535,539} of human interferon-α receptor, type I, subunit I (IFNAR1).

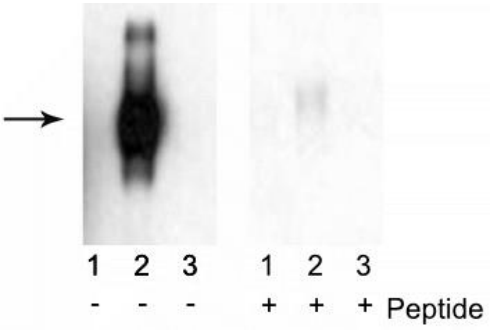
Antibody Specificity: Specific for IFNAR1 protein phosphorylated at Ser^{535,539}. Note: the molecular weight of the IFNAR1 varies with cell line (different levels of glycosylation) in 293 and HeLa Cells; the mature form is ~110 kDa - 130 kDa.

Purification Method: Prepared from pooled rabbit serum by affinity purification via sequential chromatography on phospho and non-phosphopeptide affinity columns.

Quality Control Tests: Western blots performed on each lot.

Packaging: 100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg BSA per ml and 50% glycerol.

Storage and Stability: Shipped on blue ice. Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol. Stable for at least 1 year at -20°C.



Western blot of immunoprecipitates from HEK 293 cells transfected with 1) Mock, 2) IFNAR1 WT, and 3) IFNAR1 S535A and S539A mutants. Specific immunolabeling of the ~110 kDa to ~130 kDa IFNAR1 WT (2) is shown in the first blot, as the immunolabeling is absent in IFNAR1 Ser^{535} and Ser^{539} mutants (3). The specific immunolabeling is blocked by the phosphopeptide (+) used as the antigen in the second blot.

Application Key: **WB** = Western Blot **IF** = Immunofluorescence **IHC** = Immunohistochemistry **IP** = Immunoprecipitation
Species Reactivity Key: **All**-All Species **A**-Avian **Amp**-Amphibian **Ar**-*Arabidopsis* **B**-Bovine **C**-Canine **Ch**-Chicken **D**-*Drosophila* **G**-Goat **GP**-Guinea Pig **H**-Human **Ha**-Hamster **M**-Mouse **NHP**- Non-human primate **P**-Pig **R**-Rat **S**-Sheep **X**-*Xenopus* **Z**-Zebrafish
*Species assumed based on 100% homology with sequence used as antigen **For Research Use Only**

Product Specific References:

Zheng, H., Qian, J., Baker, D.P. and Fuchs, S.Y., 2011. Tyrosine phosphorylation of protein kinase D2 mediates ligand-inducible elimination of the Type 1 interferon receptor. *Journal of Biological Chemistry*, *286*(41), pp.35733-35741.

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Bhattacharya, S., Qian, J., Tzimas, C., Baker, D.P., Koumenis, C., Diehl, J.A. and Fuchs, S.Y., 2011. Role of p38 protein kinase in the ligand-independent ubiquitination and down-regulation of the IFNAR1 chain of type I interferon receptor. *Journal of Biological Chemistry*, *286*(25), pp.22069-22076.

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Liu, J., Carvalho, L.P., Bhattacharya, S., Carbone, C.J., Kumar, K.S., Leu, N.A., Yau, P.M., Donald, R.G., Weiss, M.J., Baker, D.P. and McLaughlin, K.J., 2009. Mammalian casein kinase 1α and its leishmanial ortholog regulate stability of IFNAR1 and type I interferon signaling. *Molecular and cellular biology*, *29*(24), pp.6401-6412.

K. G. Suresh Kumar, John J. Krolewski, and Serge Y. Fuchs (2004) Phosphorylation and Specific Ubiquitin Acceptor Sites Are Required for Ubiquitination and Degradation of the IFNAR1 Subunit of Type I Interferon Receptor**.** J. Biol. Chem., Nov 2004; 279: 46614 - 46620.

General References:

Biron CA (2001) Interferons alpha and beta as immune regulators--a new look. Immunity 14:661-664.

Kirkwood J (2002) Cancer immunotherapy: the interferon-alpha experience. Semin Oncol 29:18-26.

Kumar KG, Tang W, Ravindranath AK, Clark WA, Croze E, Fuchs SY (2003) SCF(HOS) ubiquitin ligase mediates the ligand-induced down-regulation of the interferon-alpha receptor. EMBO J 22:5480-5490.

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