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STAT1 [pY701] ABfinity™ Recombinant Rabbit Monoclonal Antibody - Purified

Catalog no. 700349

(See product label for lot information)

Clone/PAD: 15H13L67
Isotype: IgG
Gene ID: 6772
Protein Acc. No.: P42224
Qty: 100 µg
Volume: 200 µl
Concentration: 0.5 mg/ml

Formulation
PBS + 0.09% sodium azide

Immunogen
A peptide corresponding to amino acids 697-706 of P42224.

Immunogen sequence
KGTG[pY]IKTEL

Reactivity
This antibody reacts with Human STAT1 [pY701]. Based on sequence similarity, reactivity to orangutan, macaque, bovine, swine, sheep, elk, bat, Xenopus, mouse, rat, chicken, and salmon is expected.

Specificity
This antibody is specific for pY701 and does not recognize non-phosphorylated STAT1 protein.

Storage
2-8℃ for up to 1 mo, -20℃ for long term storage. Avoid repeated freezing and thawing.

Expiration Date
Expires one year from date of receipt when stored as instructed.

Validated Applications:

	Species	Test Material	Concentration
Western Blotting	human	HeLa + IFN-γ	0.5-2 µg/ml
Immunofluorescence	human	HeLa + IFN-γ	0.5-2 µg/ml

Background
STATs (signal transducers and activators of transcription) were originally discovered as two proteins (STAT 1 and 2) involved in IFN-α and IFN-γ signal transduction (1). Since their initial identification, 5 more STAT proteins have been discovered (STAT 3, 4, 5a, 5b and 6). STATs undergo tyrosine phosphorylations in response to growth factor or cytokine signaling (in some cases mediated by JAK kinases [Janus Kinases 1, 2 and 3]), resulting in dimerization and translocation of STAT proteins to the nucleus (2). Phosphorylation at serine residues in certain STATs (STAT 1, 3, 4 and 5) has also been reported, and appears to be required for the maximal activation of these proteins (3). STAT1 interacts directly with Nipah virus protein W modulating infection. Protein W binds inactive STAT1 in the nucleus preventing activation and down stream signaling (4)

References

1. Schindler, C. and J.E. Darnell Jr. (1995) Transcriptional responses to polypeptide ligands: the JAK-STAT pathway. Annu. Rev. Biochem. 64:621-651.
2. Ihle, J.N. (1996) STATs: signal transducers and activators of transcription. Cell 84(3):331-334.
3. Wen, Z. (1995) Maximal activation of transcription by Stat 1 and Stat 3 requires both tyrosine and serine phosphorylation. Cell 82(2):241-250.
4. Ciancanelli, M.J., et al. (2009) Nipah virus sequesters inactive STAT1 in the nucleus via a P gene-encoded mechanism. J. Virol. 83: 7828-7841.

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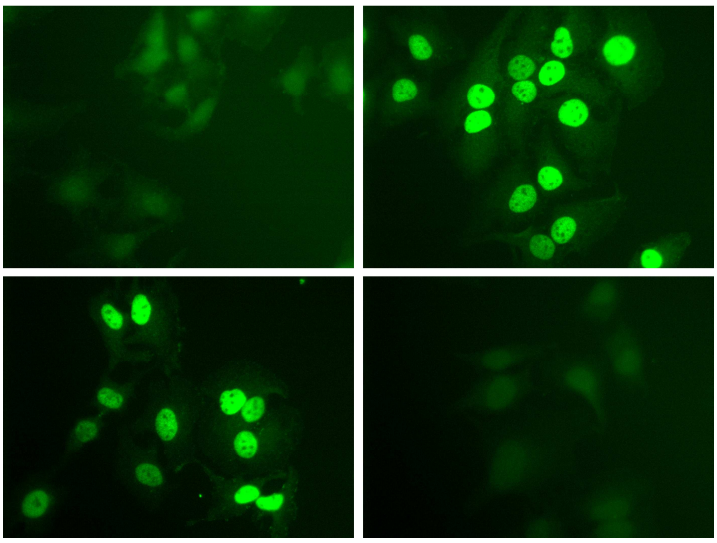
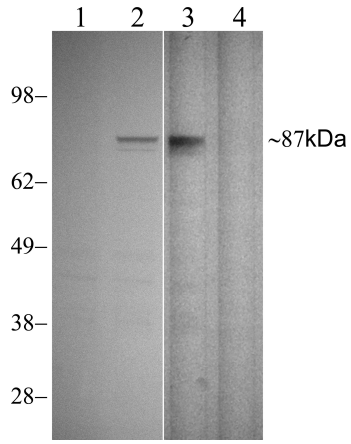


Immunocytochemistry of HeLa cells labeled with rabbit anti-STAT1 [pY701] (Cat. No. 700349).

HeLa cells were stimulated with (top right) or without (top left) 100 ng/ml interferon-γ and labeled with rabbit anti-STAT1 [pY701] (1 µg/ml). Stimulated cells were pre-incubated with phosphopeptide used as an immunogen (bottom right) or with non-phosphopeptide (bottom left) demonstrating phosphospecificity. Alexa Fluor® 488 goat anti-rabbit (Cat. No. A11008) at 1:1000 was used as secondary antibody.



Western blot of HeLa lysates labeled with rabbit anti-STAT1 [pY701] (Cat. No. 700349).

Rabbit anti-STAT1 [pY701] (0.5 µg/ml) was used to label STAT1 [pY701] in unstimulated HeLa lysates (lane 1) or lysates stimulated with 100 ng/ml interferon-γ (lanes 2-4). Pre-incubation with the phosphopeptide used as an immunogen eliminated the signal (lane 4) whereas pre-incubation with the non-phosphopeptide did not (lane 3).

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