

## Product datasheet for **TA319247**

### STAT2 Rabbit Polyclonal Antibody

#### Product data:

Product Type:	Primary Antibodies
Applications:	IHC, WB
Recommended Dilution:	ELISA: 1:85,000; Western Blot: 1:500–1:1000; Immunohistochemistry: 1:100
Reactivity:	Human, Chimpanzee, Macaque, Monkey, Rat, Dog, Pig, Mouse, Bovine, Horse
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to a region near the N-terminus of human STAT2 protein.
Formulation:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Concentration:	lot specific
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	signal transducer and activator of transcription 2
Database Link:	<a href="#">NP_005410</a> <a href="#">Entrez Gene 20847 Mouse</a> <a href="#">Entrez Gene 288774 Rat</a> <a href="#">Entrez Gene 481111 Dog</a> <a href="#">Entrez Gene 712694 Monkey</a> <a href="#">Entrez Gene 6773 Human</a> <a href="#">P52630</a>
Synonyms:	IMD44; ISGF-3; P113; STAT113



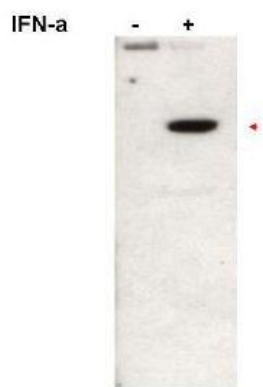
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**Note:** This antibody is suitable for Cancer, Immunology and Nuclear Signaling research. STAT2 is a member of the STAT family of transcription factors. Unlike other STATs, STAT2 is unique as it can only be activated by interferons (IFNs). STAT2 is a critical component in mediating many IFN-stimulated biological activities including antiproliferation and antiviral responses. Upon IFN treatment, STAT1 and STAT2 become tyrosine phosphorylated, assemble as heterodimers that bind IRF9 to form the ISGF3 complex. This complex translocates to the nucleus, binds to promoters of IFN-stimulated genes and mediates gene transcription. Consequently, mutations in STAT2 or loss of STAT2 expression leads to impairment in IFN signal transduction and gene activation. IFN-alpha is an approved drug for the treatment of several forms of cancer. Yet only a subset of patients who receive IFN-alpha therapy benefit from the treatment. Given that STAT2 is activated by IFNs, it is important to define if the reduced or lack of antitumor effects seen in cancer patients on IFN therapy is due to in defects in STAT2 function. Our goal is to identify regions/motifs within the structural domains of STAT2 that not only are essential for the tyrosine phosphorylation of STAT2, but also regulate the antitumor effects of IFN-alpha. Collectively, the results of our studies will emphasize the physiological role of STAT2 in cancer. From a clinical viewpoint, cancer patients who may benefit the most from receiving IFN-alpha therapy can be selected based on their STAT2 function.

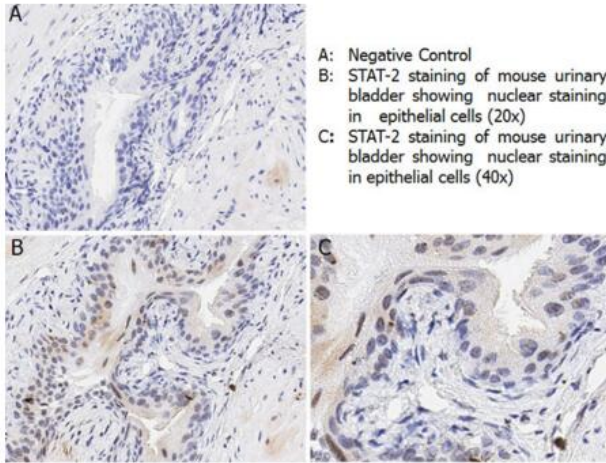
**Protein Families:** Druggable Genome, Transcription Factors

**Protein Pathways:** Chemokine signaling pathway, Jak-STAT signaling pathway

### Product images:



Western blot using affinity purified anti-Stat2pY690 antibody shows detection of Stat2pY690 protein (arrowhead) in Jurkat cells without (left lane) and with (right lane) 1000U/mL of IFN-a for 15 min at 37oC. Primary antibody was used at 1:1,000.



Immunohistochemistry with anti-STAT2 pY690 antibody showing nuclear positivity in epithelial cells of mouse urinary bladder tissue at 20x and 40x (B & C). Staining was performed on Leica Bond system using the standard protocol. Formalin fixed/paraffin embedded tissue sections were subjected to antigen retrieval and then incubated with rabbit anti-STAT2 pY690 antibody at 1:100 dilution for 60 minutes. Biotinylated Anti-rabbit secondary antibody was used at 1:200 dilution to detect primary antibody. The reaction was developed using streptavidin-HRP conjugated compact polymer system and visualized with chromogen substrate, 3'3'-diamino-benzidine substrate (DAB). The sections were then counterstained with hematoxylin to detect cell nuclei.