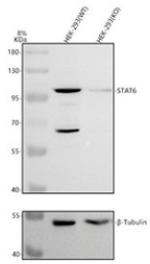
STAT6 Antibody / STAT6 Knockout Validated Antibody (RQ7207)

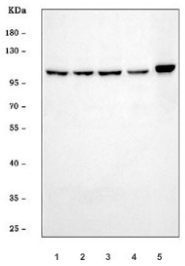
Catalog No.	Formulation	Size
RQ7207	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

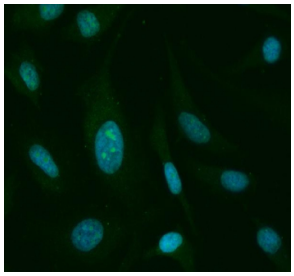
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P42226
Applications	Western blot: 0.5-1ug/ml Flow cytometry: 1-3ug/million cells Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml Direct ELISA: 0.1-0.5ug/ml
Limitations	This STAT6 Antibody / STAT6 Knockout Validated Antibody is available for research use only.



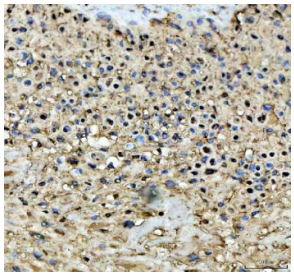
STAT6 Antibody WB Validation in Human HEK293 WT and STAT6 KO Cells. Western blot analysis of human HEK293 wild-type (WT, lane 1) and STAT6 knockout (KO, lane 2) whole-cell lysates using STAT6 Knockout Validated Antibody at 0.5 ug/ml. A band near 100 kDa is detected in WT cells and is absent at the corresponding position in STAT6 KO cells, supporting target-specific recognition. The observed migration is slightly above the predicted molecular weight of approximately 94 kDa. A lower-molecular-weight band is also visible in the WT lane but is not identified by the supplied experiment. Alpha-Tubulin serves as the loading control, and each lane contained 30 ug of protein.



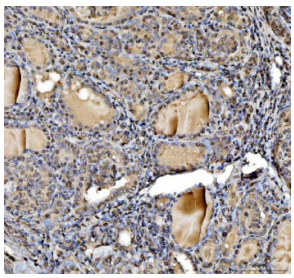
STAT6 Antibody WB Analysis of HeLa, 293T, HepG2, Jurkat and Raji Cells. Western blot analysis of human HeLa (lane 1), 293T (lane 2), HepG2 (lane 3), Jurkat (lane 4), and Raji (lane 5) whole-cell lysates using STAT6 Knockout Validated Antibody. Bands are detected near the expected STAT6 molecular weight of approximately 94 kDa across all five samples, with variation in signal intensity. The results demonstrate detection of STAT6-sized proteins in multiple human cell lines.



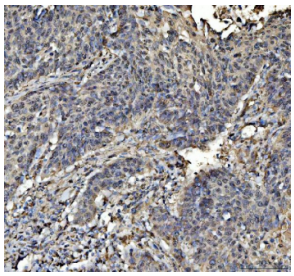
STAT6 Antibody IF Staining of Human HeLa Cells. Immunofluorescence analysis of formalin-fixed, paraffin-embedded human HeLa cells using STAT6 Knockout Validated Antibody. STAT6-associated fluorescence is shown in green, with nuclei counterstained using DAPI (blue). Fluorescence is visible in the nuclear and surrounding cellular regions. Heat-induced epitope retrieval was performed using citrate buffer (pH 6) for 20 minutes.



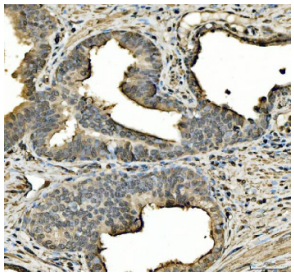
STAT6 Antibody IHC Staining of Human Placental Tissue. Immunohistochemical analysis of formalin-fixed, paraffin-embedded human placental tissue using STAT6 Knockout Validated Antibody. Brown DAB staining is observed in scattered nuclei and cytoplasmic regions across the tissue section, with hematoxylin counterstaining. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8) for 20 minutes.



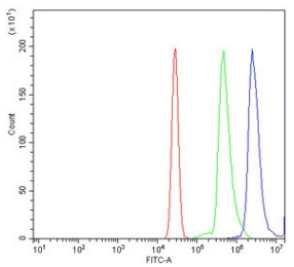
STAT6 Antibody IHC Staining of Human Thyroid Cancer Tissue. Immunohistochemical analysis of formalin-fixed, paraffin-embedded human thyroid cancer tissue using STAT6 Knockout Validated Antibody. Brown DAB staining is visible in portions of the tumor tissue, including cells surrounding follicular-like structures, with hematoxylin counterstaining. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8) for 20 minutes.



STAT6 Antibody IHC Staining of Human Laryngeal Squamous Cell Carcinoma. Immunohistochemical analysis of formalin-fixed, paraffin-embedded human laryngeal squamous cell carcinoma tissue using STAT6 Knockout Validated Antibody. Brown DAB staining is present in scattered tumor-associated cells, with predominantly weak to moderate staining across the examined field. Hematoxylin provides nuclear counterstaining. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8) for 20 minutes.



STAT6 Antibody IHC Staining of Human Prostate Cancer Tissue. Immunohistochemical analysis of formalin-fixed, paraffin-embedded human prostate cancer tissue using STAT6 Knockout Validated Antibody. Brown DAB staining is visible in portions of the glandular epithelium and surrounding tissue, with hematoxylin counterstaining. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8) for 20 minutes.



STAT6 Antibody FACS Staining of Human U937 Cells. Flow cytometry analysis of fixed and permeabilized human U937 cells using STAT6 Knockout Validated Antibody at 1 ug per million cells. The antibody-stained population (blue) shows a substantial rightward fluorescence shift relative to the isotype control (green) and unstained cells (red), demonstrating intracellular antibody-associated staining consistent with STAT6 detection.

Description

STAT6 Antibody / STAT6 Knockout Validated Antibody targets Signal Transducer and Activator of Transcription 6 (STAT6), a transcription factor that mediates cytokine signaling downstream of interleukin-4 (IL-4) and interleukin-13 (IL-13). STAT6 belongs to the STAT protein family, whose members transmit extracellular signals to the nucleus and regulate gene expression. Its activity is particularly important in type 2 immune responses, allergic inflammation, and the differentiation of CD4-positive T lymphocytes into T helper 2 (Th2) cells.

Following IL-4 or IL-13 receptor activation, receptor-associated Janus kinases phosphorylate STAT6 at tyrosine 641. Phosphorylated STAT6 forms dimers that accumulate in the nucleus, where they bind specific DNA regulatory sequences and activate cytokine-responsive genes. This signaling pathway influences immune cell differentiation, cytokine production, and tissue responses to inflammatory stimuli. STAT6 activity is regulated through phosphorylation, nuclear transport, protein interactions, and mechanisms that limit the duration of cytokine signaling.

STAT6 plays a central role in Th2 differentiation by promoting expression of GATA3 and other genes associated with type 2 immunity. It also contributes to immunoglobulin class switching, particularly the production of IgE in response to IL-4 signaling. In macrophages, STAT6 regulates alternative activation programs associated with tissue repair, extracellular matrix remodeling, and responses to parasitic infection. These functions connect STAT6 signaling to both protective immunity and chronic inflammatory conditions.

Dysregulated STAT6 activity has been implicated in asthma, atopic dermatitis, allergic disease, and several malignancies. Persistent IL-4 and IL-13 signaling can contribute to inflammatory gene expression and altered immune cell behavior. In cancer biology, STAT6 participates in interactions between tumor cells and the surrounding immune microenvironment. Its activity may influence macrophage polarization, cellular survival, and mechanisms of immune regulation, depending on the tissue and disease context.

STAT6 Antibody supports investigations of cytokine-responsive transcriptional regulation, immune differentiation, and inflammatory signaling. Distinguishing total STAT6 expression from its phosphorylation-dependent activation is important when interpreting this pathway, since protein abundance alone does not establish signaling activity. The central role of STAT6 in coordinating type 2 immune responses makes it an important target for understanding allergic inflammation, immune homeostasis, and disease-associated changes in cytokine signaling.

Explore additional proteins involved in cytokine signaling, transcriptional regulation, and intracellular communication in our Signal Transduction Antibodies collection.

Application Notes

Optimal dilution of the STAT6 Antibody / STAT6 Knockout Validated Antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids E13-Q810) was used as the immunogen for the STAT6 antibody.

Storage

After reconstitution, the STAT6 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

STAT6 antibody, Signal Transducer and Activator of Transcription 6 antibody, STAT6 protein antibody, STAT6 transcription factor antibody, IL-4 STAT antibody, IL-13 signaling STAT antibody, STAT6 cytokine signaling antibody, STAT6 transcription regulator antibody, STAT6 immune signaling antibody, STAT6 knockout validated antibody

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