## Overview

**Product name**  
Anti-STAT3 (phospho S727) antibody

**Description**  
Rabbit polyclonal to STAT3 (phospho S727)

**Host species**  
Rabbit

**Specificity**  
ab30647 detects endogenous levels of STAT3 only when phosphorylated at Serine 727.

**Tested applications**  
Suitable for: IHC-FoFr, IHC-P, WB, ELISA, IP

**Species reactivity**  
Reacts with: Mouse, Rat, Dog, Human, African green monkey

**Immunogen**  
Synthetic peptide corresponding to Human STAT3 (phospho S727). The antiserum was produced against synthesized phosphopeptide derived from human STAT3 around the phosphorylation site of serine 727 (P-M-SP-P-R).

Database link: [P40763](#)

(Peptide available as ab43618, ab82053)

**Positive control**  
IHC: Human breast carcinoma tissue. WB: HeLa and COS7 cell lysate.

## Properties

**Form**  
Liquid

**Storage instructions**  
Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.

**Storage buffer**  
pH: 7.40  
Preservative: 0.02% Sodium azide  
 Constituents: 49% PBS, 50% Glycerol, 0.87% Sodium chloride

**Purity**  
Protein A purified

**Purification notes**  
ab30647 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.

**Clonality**  
Polyclonal

**Isotype**  
IgG

## Applications
Function
Signal transducer and transcription activator that mediates cellular responses to interleukins, KITLG/SCF, LEP and other growth factors. Once activated, recruits coactivators, such as NCOA1 or MED1, to the promoter region of the target gene (PubMed:17344214). May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4. Binds to the interleukin-6 (IL-6)-responsive elements identified in the promoters of various acute-phase protein genes. Activated by IL31 through IL31RA. Involved in cell cycle regulation by inducing the expression of key genes for the progression from G1 to S phase, such as CCND1 (PubMed:17344214). Mediates the effects of LEP on melanocortin production, body energy homeostasis and lactation (By similarity). May play an apoptotic role by transctivating BIRC5 expression under LEP activation (PubMed:18242580). Cytoplasmic STAT3 represses macroautophagy by inhibiting EIF2AK2/PKR activity.

Tissue specificity
Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas.

Involvement in disease
Hyperimmunoglobulin E recurrent infection syndrome, autosomal dominant Autoimmune disease, multisystem, infantile-onset

Sequence similarities
Belongs to the transcription factor STAT family. Contains 1 SH2 domain.

Post-translational modifications
Tyrosine phosphorylated upon stimulation with EGF. Tyrosine phosphorylated in response to constitutively activated FGFR1, FGFR2, FGFR3 and FGFR4 (By similarity). Activated through tyrosine phosphorylation by BMX. Tyrosine phosphorylated in response to IL6, IL11, LIF, CNTF, KITLG/SCF, CSF1, EGF, PDGF, IFN-alpha, LEP and OSM. Activated KIT promotes phosphorylation on tyrosine residues and subsequent translocation to the nucleus. Phosphorylated on serine upon DNA damage, probably by ATM or ATR. Serine phosphorylation is important for the formation of stable DNA-binding STAT3 homodimers and maximal transcriptional activity. ARL2BP may participate in keeping the phosphorylated state of STAT3 within the nucleus. Upon LPS challenge, phosphorylated within the nucleus by IRAK1. Upon erythropoietin treatment, phosphorylated on Ser-727 by RPS6KA5. Phosphorylation at Tyr-705 by PTK6 or FER leads to an increase of its transcriptional activity. Dephosphorylation on tyrosine residues by PTPN2 negatively regulates IL6/interleukin-6 signaling.

Cellular localization
Cytoplasm. Nucleus. Shuttles between the nucleus and the cytoplasm. Translocated into the nucleus upon tyrosine phosphorylation and dimerization, in response to signaling by activated
FGFR1, FGFR2, FGFR3 or FGFR4. Constitutive nuclear presence is independent of tyrosine phosphorylation. Predominantly present in the cytoplasm without stimuli. Upon leukemia inhibitory factor (LIF) stimulation, accumulates in the nucleus. The complex composed of BART and ARL2 plays an important role in the nuclear translocation and retention of STAT3. Identified in a complex with LYN and PAG1.

Images

All lanes: Anti-STAT3 (phospho S727) antibody (ab30647)

Lane 1: HeLa cells extract
Lane 2: HeLa cells extract with Synthesized non-phosphopeptide
Lane 3: HeLa cells extract with Synthesized phosphopeptide

Predicted band size: 88 kDa
Observed band size: 88 kDa

ab30647 at 1/50 dilution staining STAT3 (phospho S727) in human breast carcinoma tissue by Immunohistochemistry (Formalin/PFA fixed paraffin embedded sections). The left image show staining by ab30647 without specific peptide while right image show staining after blocking with peptide.
All lanes: Anti-STAT3 (phospho S727) antibody (ab30647) at 1/500 dilution

Lane 1: COS7 cell lysate
Lane 2: COS7 cell lysate with phospho peptide

Predicted band size: 88 kDa

PFA-fixed frozen rat liver tissue stained for STAT3 (phospho S727) using ab30647 at 1/1000 dilution in immunohistochemical analysis, followed by Alexa Fluor® 488 donkey anti-rabbit.

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