

Phospho-Stat3 (Tyr705) Antibody

- Small 100 µl (10 western blots)
- Large 300 µl (30 western blots)

Orders ■ 877-616-CELL (2355)
orders@cellsignal.com

Support ■ 877-678-TECH (8324)
info@cellsignal.com

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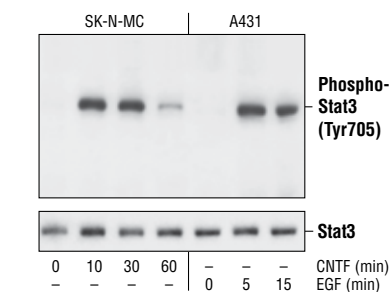
rev. 08/25/11

This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP, IF-IC, ChIP Endogenous	H, M, R, Mk, (C, B, Dg)	79, 86 kDa	Rabbit**

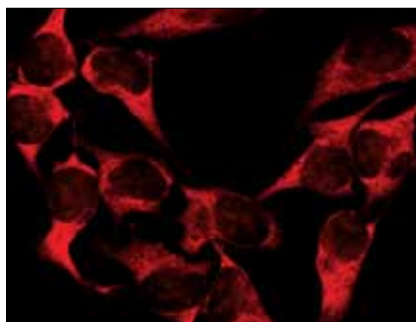
Background: Stat3 is a key signaling molecule for many cytokines and growth-factor receptors (1) and is required for murine fetal development (2). Additionally, Stat3 is constitutively activated in a number of human tumors (3,4) and possesses oncogenic potential (5) and anti-apoptotic activities (3). Stat3 is activated by phosphorylation at Tyr705, which induces dimerization, nuclear translocation and DNA binding (6,7). Transcriptional activation seems to be regulated by phosphorylation at Ser727 via the MAPK or mTOR pathway (8,9). Stat3 isoform expression appears to reflect biological function: the relative expression levels of Stat3α (86 kDa) and Stat3β (79 kDa) depend on cell type, ligand exposure or maturation stage of the cells (10). It is notable that Stat3β lacks the serine phosphorylation site within the carboxy-terminal transcriptional activation domain (8).

Specificity/Sensitivity: Phospho-Stat3 (Tyr705) Antibody detects endogenous levels of Stat3 only when phosphorylated at Tyr705. The antibody does not cross-react with other Stat proteins when phosphorylated on the corresponding tyrosine residue, but has been shown to cross-react with Phospho-EGFR.

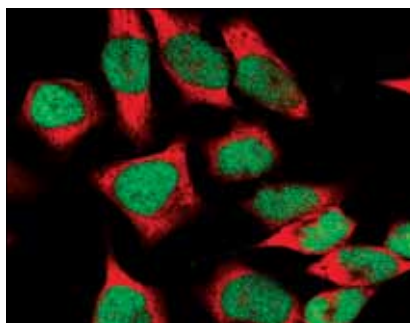


Western blot analysis of extracts from CNTF-treated SK-N-MC cells and EGF-treated A431 cells, using Phospho-Stat3 (Tyr705) Antibody (upper) or Stat3 Antibody #9132 (lower).

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr705 of mouse Stat3. Antibodies are purified by protein A and peptide affinity chromatography.



Confocal immunofluorescent analysis of HeLa cells either serum-starved (left) or IFNα-treated (right), using Phospho-Stat3 (Tyr705) Antibody (green) and S6 Ribosomal Protein (54D2) Mouse mAb #2317 (red).



Entrez-Gene ID #6774
Swiss-Prot Acc. #P40763

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

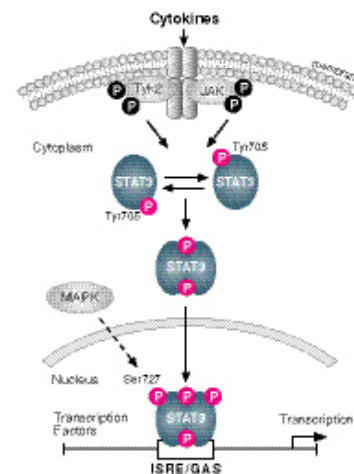
**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (IF-IC)	1:100
IF Protocol:	Methanol Permeabilization required
Chromatin IP	1:50

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

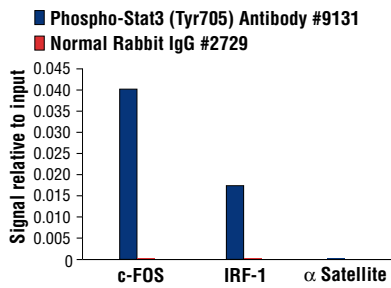


IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

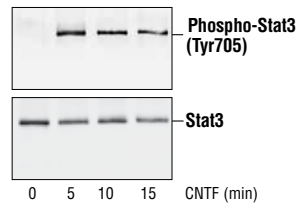
Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide

Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine

Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Chromatin immunoprecipitations were performed with cross-linked chromatin from 4×10^6 Hep G2 cells starved overnight and treated with IL-6 (100 ng/ml) for 30 minutes, and either 10 μ l of Phospho-Stat3 (Tyr705) Antibody or 2 μ l of Normal Rabbit IgG #2729 using SimpleChIP™ Enzymatic Chromatin IP Kit (Magnetic Beads) #9003. The enriched DNA was quantified by real-time PCR using human IRF-1 promoter primers, SimpleChIP™ Human c-Fos Promoter Primers #4663, and SimpleChIP™ Human α Satellite Repeat Primers #4486. The amount of immunoprecipitated DNA in each sample is represented as signal relative to the total amount of input chromatin, which is equivalent to one.



Immunoprecipitation of extracts from CNTF-treated 35S-labeled SK-N-MC cells, using Phospho-Stat3 (Tyr705) Antibody (upper) or Stat3 Antibody #9132 (lower).

Background References:

- (1) Heim, M.H. (1999) *J. Recept. Signal Transduct. Res.* 19, 75–120.
- (2) Takeda, K. et al. (1997) *Proc. Natl. Acad. Sci. USA* 94, 3801–3804.
- (3) Catlett-Falcone, R. et al. (1999) *Immunity* 10, 105–115.
- (4) Garcia, R. and Jove, R. (1998) *J. Biomed. Sci.* 5, 79–85.
- (5) Bromberg, J.F. et al. (1999) *Cell* 98, 295–303.
- (6) Darnell Jr., J.E. et al. (1994) *Science* 264, 1415–1421.
- (7) Ihle, J.N. (1995) *Nature* 377, 591–594.
- (8) Wen, Z. et al. (1995) *Cell* 82, 241–250.
- (9) Yokogami, K. et al. (2000) *Curr. Biol.* 10, 47–50.
- (10) Biethahn, S. et al. (1999) *Exp. Hematol.* 27, 885–894.