

# Stat3 (79D7) Rabbit mAb



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Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, ChIP Endogenous	H, M, R, Mk	79, 86 kDa	Rabbit IgG**

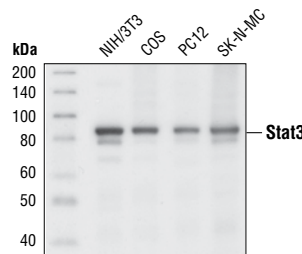
**Background:** Stat3 is a key signaling molecule for many cytokines and growth-factor receptors (1) and is required for murine fetal development (2). Additionally, Stat3 is constitutively activated in a number of human tumors (3,4) and possesses oncogenic potential (5) and anti-apoptotic activities (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 Stat3 $\alpha$  (86 kDa) and Stat3 $\beta$  (79 kDa) depend on cell type, ligand exposure or maturation stage of the cells (10). It is notable that Stat3 $\beta$  lacks the serine phosphorylation site within the carboxy-terminal transcriptional activation domain (8).

**Specificity/Sensitivity:** Stat3 (79D7) Rabbit mAb detects endogenous levels of total Stat3 protein.

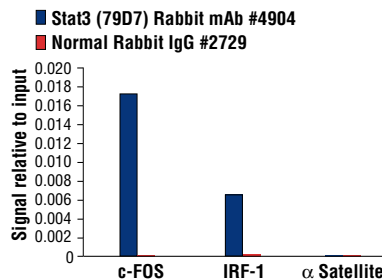
**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a Stat3 fusion protein corresponding to the carboxy-terminal sequence of mouse Stat3 protein.

**Background References:**

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- Takeda, K. et al. (1997) *Proc. Natl. Acad. Sci. USA* 94, 3801–3804.
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- Bromberg, J.F. et al. (1999) *Cell* 98, 295–303.
- Darnell Jr., J.E. et al. (1994) *Science* 264, 1415–1421.
- Ihle, J.N. (1995) *Nature* 377, 591–594.
- Wen, Z. et al. (1995) *Cell* 82, 241–250.
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Western blot analysis of extracts from various cell lines using Stat3 (79D7) Rabbit mAb.



Chromatin immunoprecipitations were performed with cross-linked chromatin from Hep G2 cells treated with IL-6 (100 ng/ml) for 30 minutes, and either Stat3 (79D7) Rabbit mAb or Normal Rabbit IgG #2729 using SimpleChIP<sup>®</sup> Enzymatic Chromatin IP Kit (Magnetic Beads) #9003. The enriched DNA was quantified by real-time PCR using human IRF-1 promoter primers, SimpleChIP<sup>®</sup> Human c-Fos Promoter Primers #4663, and SimpleChIP<sup>®</sup> Human  $\alpha$  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.

Entrez-Gene ID #6774  
UniProt ID #P40763

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. 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	1:2000
Immunoprecipitation	1:100
Chromatin IP	1:50

*Optimal ChIP conditions: 10  $\mu$ l of antibody & 10  $\mu$ g of chromatin (4 x 10<sup>6</sup> cells) per IP. Antibody validated using SimpleChIP<sup>®</sup> Enzymatic ChIP Kits.*

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

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**IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween<sup>®</sup>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.