

Store at  
-20°C

#49081

# Phospho-Stat3 (Ser727) (D8C2Z) Rabbit mAb (Biotinylated)



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TECHNOLOGY®

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Entrez-Gene ID #6774  
UniProt ID #P40763

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For Research Use Only. Not For Use In Diagnostic Procedures.

Applications  
W  
Endogenous

Species Cross-Reactivity\*  
H, M, R

Molecular Wt.  
86 kDa

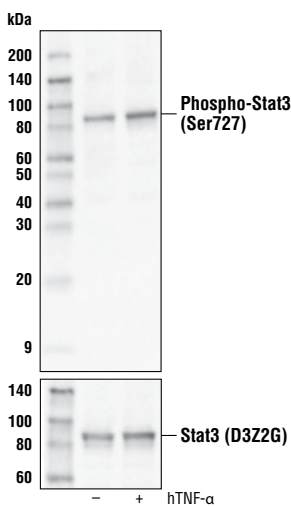
Isotype  
Rabbit IgG

**Description:** This Cell Signaling Technology antibody is conjugated to biotin under optimal conditions. The biotinylated antibody is expected to exhibit the same species cross-reactivity as the unconjugated Phospho-Stat3 (Ser727) (D8C2Z) Rabbit mAb #94994.

**Background:** The Stat3 transcription factor is an important signaling molecule for many cytokines and growth factor receptors (1) and is required for murine fetal development (2). Research studies have shown that 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 through the MAPK or mTOR pathways (8,9). Stat3 isoform expression appears to reflect biological function as the relative expression levels of Stat3 $\alpha$  (86 kDa) and Stat3 $\beta$  (79 kDa) depend on cell type, ligand exposure, or cell maturation stage (10). It is notable that Stat3 $\beta$  lacks the serine phosphorylation site within the carboxy-terminal transcriptional activation domain (8).

**Specificity/Sensitivity:** Phospho-Stat3 (Ser727) (D8C2Z) Rabbit mAb (Biotinylated) recognizes endogenous levels of Stat3 protein only when phosphorylated at Ser727.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic phospho-peptide corresponding to residues surrounding Ser727 of human Stat3 protein.



Western blot analysis of extracts from HeLa cells, untreated (-) or treated with Human Tumor Necrosis Factor- $\alpha$  #8902 (20ng/ml, 30 min; +), using Phospho-Stat3 (Ser727) (D8C2Z) Rabbit mAb (Biotinylated) (upper) or Stat3 (D3Z2G) Rabbit mAb #12640 (lower).

**Storage:** Supplied in 136 mM NaCl, 2.6 mM KCl, 12 mM sodium phosphate (pH 7.4) dibasic, 2 mg/ml BSA, and 50% glycerol. Store at -20°C. Do not aliquot the antibodies.

\*Species cross-reactivity is determined by western blot using the unconjugated antibody.

Biotinylated antibodies are designed to be detected using streptavidin or anti-biotin antibody conjugates.

#### Recommended Antibody Dilutions:

Western blotting 1:1000

For product specific protocols and a complete listing of recommended companion products please see the product web page at [www.cellsignal.com](http://www.cellsignal.com)

#### Background References:

- (1) Heim, M.H. (2001) *J Recept Signal Transduct Res* 19, 75-120.
- (2) Takeda, K. et al. (1997) *Proc Natl Acad Sci U S A* 94, 3801-4.
- (3) Catlett-Falcone, R. et al. (1999) *Immunity* 10, 105-15.
- (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, J.E. et al. (1994) *Science* 264, 1415-21.
- (7) Ihle, J.N. (1995) *Nature* 377, 591-4.
- (8) Wen, Z. et al. (1995) *Cell* 82, 241-50.
- (9) Yokogami, K. et al. (2000) *Curr Biol* 10, 47-50.
- (10) Biethahn, S. et al. (1999) *Exp Hematol* 27, 885-94.

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**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.**

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