

#1195 Store at -20°C

# Phospho-Stat3 (Tyr705) Blocking Peptide

✓ 100 µg  
(10 western blots)



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**Description:** This peptide is used to block Phospho-Stat3 (Tyr705) (D3A7) rabbit mAb #9145 reactivity.

**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 Stat3α (86 kDa) and Stat3β (79 kDa) depend on cell type, ligand exposure, or cell maturation stage (10). It is notable that Stat3β lacks the serine phosphorylation site within the carboxy-terminal transcriptional activation domain (8).

**Quality Control:** The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide detects Phospho-Stat3 (Tyr705) (DA37) Rabbit mAb # 9145 by peptoid dot blot.

**Directions for Use:** Use as a blocking reagent to evaluate the specificity of antibody reactivity in peptoid dot blot protocols.

### 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, 3801–227.
- (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.

Entrez Gene ID #6774  
UniProt ID #P40763

**Storage:** Supplied in 20 mM potassium phosphate (pH 7.0), 50 mM NaCl, 0.1 mM EDTA, 1 mg/ml BSA, 5% glycerol and 1% DMSO. Store at -20°C.

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

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**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry IC—Immunocytochemistry IF—Immunofluorescence F—Flow cytometry E—ELISA D—DELFIATM  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken X—Xenopus Z—zebra fish B—bovine All—all species expected  
Species enclosed in parentheses are predicted to react based on 100% sequence homology.