

## Phospho-Stat1 (Tyr701) (58D6) Rabbit mAb (Alexa Fluor® 488 Conjugate)



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

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	H M	Endogenous	Rabbit IgG	#P42224	6772

### Product Usage Information

#### Application

Flow Cytometry (Fixed/Permeabilized)

#### Dilution

1:50

### Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

### Specificity/Sensitivity

Phospho-Stat1 (Tyr701) (58D6) Rabbit mAb (Alexa Fluor® 488 Conjugate) detects endogenous levels of Stat1 only when phosphorylated at Tyr701. The antibody detects phosphorylated Tyr701 of p91 Stat1 and also the p84 splice variant. It does not cross-react with the corresponding phospho-tyrosines of other Stat proteins.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr701 of human Stat1. The antibody was conjugated to Alexa Fluor® 488 under optimal conditions with an F/P ratio of 2-6.

### Description

Cell Signaling Technology antibody is conjugated to Alexa Fluor® 488 fluorescent dye and tested in-house for direct flow cytometric analysis of human cells. The unconjugated antibody, #9167, reacts with human, mouse and rat phospho-Stat1 protein. CST expects that Phospho-Stat1 (Tyr701) (58D6) Rabbit mAb (Alexa Fluor® 488 Conjugate) will also recognize phospho-Stat1 in these species.

### Background

The Stat1 transcription factor is activated in response to a large number of ligands (1) and is essential for responsiveness to IFN- $\alpha$  and IFN- $\gamma$  (2,3). Phosphorylation of Stat1 at Tyr701 induces Stat1 dimerization, nuclear translocation, and DNA binding (4). Stat1 protein exists as a pair of isoforms, Stat1 $\alpha$  (91 kDa) and the splice variant Stat1 $\beta$  (84 kDa). In most cells, both isoforms are activated by IFN- $\alpha$ , but only Stat1 $\alpha$  is activated by IFN- $\gamma$ . The inappropriate activation of Stat1 occurs in many tumors (5). In addition to tyrosine phosphorylation, Stat1 is also phosphorylated at Ser727 through a p38 mitogen-activated protein kinase (MAPK)-dependent pathway in response to IFN- $\alpha$  and other cellular stresses (6). Serine phosphorylation may be required for the maximal induction of Stat1-mediated gene activation.

### Background References

- Heim, M.H. (1999) *J Recept Signal Transduct Res* 19, 75-120.
- Durbin, J.E. et al. (1996) *Cell* 84, 443-50.
- Meraz, M.A. et al. (1996) *Cell* 84, 431-42.
- Ihle, J.N. et al. (1994) *Trends Biochem Sci* 19, 222-7.
- Frank, D.A. (1999) *Mol Med* 5, 432-56.
- Wen, Z. et al. (1995) *Cell* 82, 241-50.

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Applications Key

**FC-FP:** Flow Cytometry (Fixed/Permeabilized)

### Cross-Reactivity Key

**H:** Human **M:** Mouse

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