

# Stat1 Control Cell Extracts

✓ Controls for 10 western blots



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Entrez-Gene ID #6772

UniProt ID #P42224

**Background:** Stat1, while activated in response to a large number of ligands (1), appears to be 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 has two 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- $\gamma$ . Stat1 has been found to be inappropriately activated in many tumors (5). In addition to tyrosine phosphorylation, Stat1 is phosphorylated through a p38 mitogen-activated protein kinase (MAPK)-dependent pathway at Ser727 in response to IFN- $\alpha$  and other cellular stresses (6). Serine phosphorylation may be required for the maximal induction of Stat1-mediated gene activation.

#### Description:

**Nonphosphorylated Stat1 Control Cell Extracts:** Total cell extracts from HeLa cells prepared without treatment serve as a negative control. Supplied in SDS Sample Buffer.

**Phosphorylated Stat1 Control Cell Extracts:** Total cell extracts from HeLa cells prepared with 100 ng/ml interferon-alpha 5 minute treatment serve as a positive control. Supplied in SDS Sample Buffer.

**Western Blots:** CST recommends using 10  $\mu$ l of phosphorylated and nonphosphorylated Stat1 control cell extracts as controls. Boil for 3 minutes prior to the first use.

#### Background References:

- (1) Heim, M.H. (1999) *J. Recept. Signal. Transduct. Res.* 19, 75–120.
- (2) Durbin, J.E. et al. (1996) *Cell* 84, 443–450.
- (3) Meraz, M.A. et al. (1996) *Cell* 84, 431–442.
- (4) Ihle, J.N. et al. (1994) *Trends Biochem. Sci.* 19, 222–227.
- (5) Frank, D.A. (1999) *Mol. Med.* 5, 432–456.
- (6) Wen, Z. et al. (1995) *Cell* 82, 241–250.

**Storage:** Supplied in SDS Sample Buffer: 62.5 mM Tris-HCl (pH 6.8 at 25°C), 2% w/v SDS, 10% glycerol, 50 mM DTT, 0.01% w/v bromophenol blue. Store at -20°C. Store at -80°C long term.

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