

Stat1 Control Cell Extracts

✓ Controls for 10 Western mini-blot

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This product is for *in vitro* research use only and is not intended for use in humans or animals.

Background: Stat1, while activated in response to a large number of ligands (1), appears to be essential for responsiveness to IFN- α and IFN- γ (2,3). Phosphorylation of Stat1 at Tyr701 induces Stat1 dimerization, nuclear translocation and DNA binding (4). Stat1 has two isoforms, Stat1 α (91 kDa) and the splice variant Stat1 β (84 kDa). In most cells, both isoforms are activated by IFN- α , but only Stat1 α is activated by IFN- γ . 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- α 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- α 5 minute treatment serve as a positive control. Supplied in SDS Sample Buffer.

Western Blots: CST recommends using 10 μ l of phosphorylated and nonphosphorylated Stat1 control cell extracts as controls.

Notes on Use: These lysates are useful for Phospho-Stat1 (Tyr701) Antibody #9171. However, they are not useful for Phospho-Stat1 (Ser727) Antibody #9177.

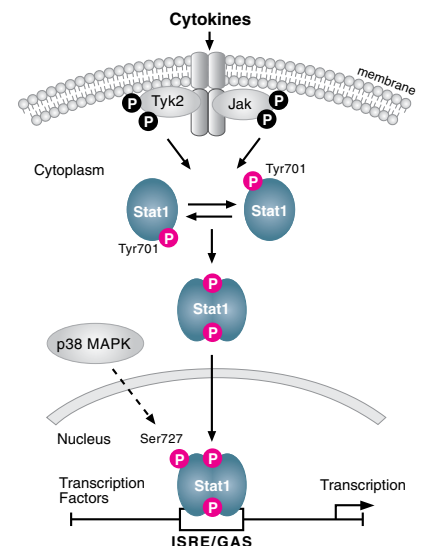
Background References:

- (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.

Companion Products:

PhosphoPlus® Stat1 (Tyr701) Antibody Kit #9170
Phospho-Stat1 (Tyr701) Antibody #9171
Stat1 Antibody #9172
Stat1 (42H3) Rabbit mAb (Human Specific) #9175
Stat Antibody Sampler Kit #9939
Phospho-Stat Antibody Sampler Kit #9914
Anti-rabbit IgG, HRP-linked Antibody #7074
Anti-mouse IgG, HRP-linked Antibody #7076
Prestained Protein Marker, Broad Range (Premixed Format) #7720
Biotinylated Protein Ladder Detection Pack #7727
20X LumiGLO® Reagent and 20X Peroxide #7003



Stat1 Signaling Pathway

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.