# Stat1 (m): 293T Lysate: sc-123815



The Power to Question

#### **BACKGROUND**

Membrane receptor signaling by various ligands, including interferons and growth hormones such as EGF, induces activation of JAK kinases which then leads to tyrosine phosphorylation of the various Stat transcription factors. Stat1 and Stat2 are induced by IFN $\alpha$  and form a heterodimer which is part of the ISGF3 transcription factor complex. Although early reports indicate Stat3 activation by EGF and IL-6, it has been shown that Stat3 $\beta$  appears to be activated by both while Stat3 $\alpha$  is activated by EGF, but not by IL-6. Highest expression of Stat4 is seen in testis and myeloid cells. IL-12 has been identified as an activator of Stat4. Stat5 has been shown to be activated by prolactin and by IL-3. Stat6 is involved in IL-4 activated signaling pathways.

#### **REFERENCES**

- Zhong, Z., Wen, Z. and Darnell, J.E., Jr. 1994. Stat3: a Stat family member activated by tyrosine phosphorylation in response to epidermal growth factor and interleukin-6. Science 264: 95-98.
- Darnell, J.E., Kerr, I.M. and Stark, G.R. 1994. JAK/Stat pathways and transcriptional activation in response to IFNs and other extracellular signaling proteins. Science 264: 1415-1421.
- 3. Hou, J., Schindler, U., Henzel, W.J., Ho, T.C., Brasseur, M. and McKnight, S.L. 1994. An interleukin-4-induced transcription factor: IL-4 Stat. Science 265: 1701-1706.
- Yamamoto, K., Quelle, F.W., Thierfelder, W.E., Kreider, B.L., Gilbert, D.J., Jenkins, N.A., Copeland, N.G., Silvennoinen, O. and Ihle, J.N. 1994. Stat4, a novel γ interferon activation site-binding protein expressed in early myeloid differentiation. Mol. Cell. Biol. 14: 4342-4349.
- Schindler, C. and Darnell, J.E., Jr. 1995. Transcriptional responses to polypeptide ligands: the JAK/Stat pathway. Annu. Rev. Biochem. 64: 621-651.
- Pallard, C., Gouilleux, F., Charon, M., Groner, B., Gisselbrecht, S. and Dusanter-Fourt, I. 1995. Interleukin-3, erythropoietin, and prolactin activate a Stat5-like factor in lymphoid cells. J. Biol. Chem. 270: 15942-15945.
- Qureshi, S.A., Salditt-Georgieff, M. and Darnell, J.E., Jr. 1995. Tyrosinephosphorylated Stat1 and Stat2 plus a 48 kDa protein all contact DNA in forming interferon-stimulated-gene factor 3. Proc. Nat. Acad. Sci. USA 92: 3829-3833.
- 8. Schaefer, T.S., Sanders, L.K. and Nathans, D. 1995. Cooperative transcriptional activity of Jun and Stat3 $\beta$ , a short form of Stat3. Proc. Natl. Acad. Sci. USA 92: 9097-9091.
- Kovarik, J., Boudny, V., Kocak, I., Lauerova, L., Fait, V. and Vagundova, M. 2003. Malignant melanoma associates with deficient IFN-induced Stat1 phosphorylation. Int. J. Mol. Med. 12: 335-340.

## **CHROMOSOMAL LOCATION**

Genetic locus: Stat1 (mouse) mapping to 1 C1.1.

## **PRODUCT**

Stat1 (m): 293T Lysate represents a lysate of mouse Stat1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

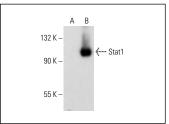
#### **APPLICATIONS**

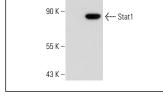
Stat1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Stat1 p84/p91 lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Stat1 (B-9): sc-271661 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Stat1 expression in Stat1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

#### **DATA**





132 K -

Stat1 (B-9): sc-271661. Western blot analysis of Stat1 expression in non-transfected: sc-117752 (A) and mouse Stat1 transfected: sc-123815 (B) 293T whole cell Ivsates.

Stat1 (6D776): sc-73070. Western blot analysis of Stat1 expression in non-transfected: sc-117752 (**A**) and mouse Stat1 transfected: sc-123815 (**B**) 293T whole cell lysates.

#### **STORAGE**

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

### **RESEARCH USE**

For research use only, not for use in diagnostic procedures.

#### **PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.