

Stat4 (L-18): sc-485

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- α 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 β appears to be activated by both while Stat3 α 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.

CHROMOSOMAL LOCATION

Genetic locus: STAT4 (human) mapping to 2q32.2; Stat4 (mouse) mapping to 1 C1.1.

SOURCE

Stat4 (L-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of Stat4 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-485 X, 200 μ g/0.1 ml.

Blocking peptide available for competition studies, sc-485 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Stat4 (L-18) is recommended for detection of Stat4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Stat4 (L-18) is also recommended for detection of Stat4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Stat4 siRNA (h): sc-36568, Stat4 siRNA (m): sc-36569, Stat4 shRNA Plasmid (h): sc-36568-SH, Stat4 shRNA Plasmid (m): sc-36569-SH, Stat4 shRNA (h) Lentiviral Particles: sc-36568-V and Stat4 shRNA (m) Lentiviral Particles: sc-36569-V.

Stat4 (L-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Stat4: 89 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, CTLL-2 cell lysate: sc-2242 or mouse testis extract: sc-2405.

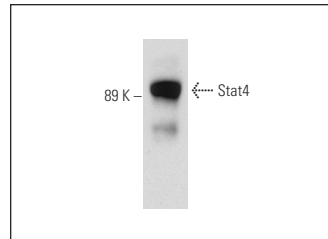
STORAGE

Store at 4 $^{\circ}$ C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

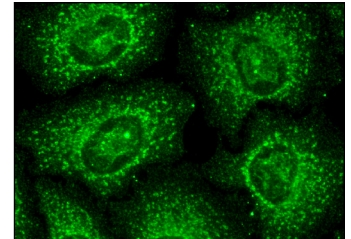
RESEARCH USE

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

DATA



Stat4 (L-18): sc-485. Western blot analysis of Stat4 expression in CTLL-2 whole cell lysate.



Stat4 (L-18): sc-485. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

- Damen, J.E., et al. 1995. Tyrosine 343 in the erythropoietin receptor positively regulates erythropoietin induced cell proliferation and Stat5 activation. *EMBO J.* 14: 5557-5566.
- Bacon, C.M., et al. 1995. Interleukin 12 induces tyrosine phosphorylation and activation of Stat4 in human lymphocytes. *Proc. Natl. Acad. Sci. USA* 92: 7307-7311.
- Nakahira, M., et al. 2002. Synergy of IL-12 and IL-18 for IFN- γ gene expression: IL-12-induced STAT4 contributes to IFN- γ promoter activation by up-regulating the binding activity of IL-18-induced activator protein 1. *J. Immunol.* 168: 1146-1153.
- Ziegler-Heitbrock, L., et al. 2003. IFN α induces the human IL-10 gene by recruiting both IFN regulatory factor 1 and Stat3. *J. Immunol.* 171: 285-290.
- Hoey, T., et al. 2003. Distinct requirements for the naturally occurring splice forms Stat4 α and Stat4 β in IL-12 responses. *EMBO J.* 22: 4237-4248.
- Unterberger, C., et al. 2007. Stat3 is involved in control of MASP2 gene expression. *Biochem. Biophys. Res. Commun.* 364: 1022-1025.
- Karpuzoglu, E., et al. 2009. Signal transducer and activation of transcription (STAT) 4 β , a shorter isoform of interleukin-12-induced Stat4, is preferentially activated by estrogen. *Endocrinology* 150: 1310-1320.
- Karpuzoglu, E., et al. 2011. Serine protease inhibitor, 4-(2-aminoethyl)-benzene sulfonyl fluoride, impairs IL-12-induced activation of pSTAT4 β , NF κ B, and select pro-inflammatory mediators from estrogen-treated mice. *Immunobiology* 216: 1264-1273.


 MONOS
Satisfaction
Guaranteed

Try **Stat4 (C-4): sc-398228** or **Stat4 (A-12): sc-365518**, our highly recommended monoclonal alternatives to Stat4 (L-18). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Stat4 (C-4): sc-398228**.