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 Stat3β appears to be activated by both while Stat3α 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

CHROMOSOMAL LOCATION
Genetic locus: STAT3 (human) mapping to 17q21.2; Stat3 (mouse) mapping to 11 D.

SOURCE
Stat3 (F-2) is a mouse monoclonal antibody raised against amino acids 50-240 mapping at the N-terminus of Stat3 p92 of human origin.

PRODUCT
Each vial contains 200 µg IgG1 kappa light chain 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-8019 X, 200 µg/0.1 ml.

Stat3 (F-2) is available conjugated to agarose (sc-8019 AC), 500 µg/0.25 ml agarose in 1 ml, for IP: to HRP (sc-8019 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8019 PE), fluorescein (sc-8019 FITC), Alexa Fluor® 488 (sc-8019 AF488), Alexa Fluor® 546 (sc-8019 AF546), Alexa Fluor® 594 (sc-8019 AF594) or Alexa Fluor® 647 (sc-8019 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8019 AF680) or Alexa Fluor® 790 (sc-8019 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS
Stat3 (F-2) is recommended for detection of Stat3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Stat3 (F-2) is also recommended for detection of Stat3 in additional species, including equine, bovine and porcine.


Stat3 (F-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Stat3α/β isoforms: 91/86 kDa. Positive Controls: K-562 whole cell lysate: sc-2203, SK-BR-3 cell lysate: sc-2218 or MOLT-4 cell lysate: sc-2233.

DATA

SELECT PRODUCT CITATIONS

STORAGE
Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.