

Tyk 2 (51): sc-136265

BACKGROUND

Tyk 2 belongs to the family of non-receptor janus tyrosine kinases, which regulate a spectrum of cellular functions occurring downstream of activated cytokine receptors in the lympho-hematopoietic system. Immunological stimuli, such as interferons and cytokines, recruit Stat transcription factors to the cytokine receptor where Tyk 2 is associated. Tyk 2 then phosphorylates proximal Stat factors, which subsequently dimerize, translocate to the nucleus, and bind to *cis* elements upstream of target gene promoters to regulating transcription. The canonical JAK-Stat pathway is integral to maintaining a normal immune system by stimulating proliferation, differentiation, survival and host resistance to pathogens. Cytokine induced pro-inflammatory responses are attractive targets for anti-inflammatory therapies, specifically at the level of JAK-Stat signaling.

REFERENCES

- Leonard, W.J. and O'Shea, J.J. 1998. JAKs and Stats: biological implications. *Annu. Rev. Immunol.* 16: 293-322.
- Murakami, Y., et al. 1998. Constitutive activation of JAK2 and Tyk 2 in a v-Src-transformed human gallbladder adenocarcinoma cell line. *J. Cell. Physiol.* 175: 220-228.
- Subramaniam, S.V., et al. 1999. Evidence for the involvement of JAK/Stat pathway in the signaling mechanism of interleukin-17. *Biochem. Biophys. Res. Commun.* 262: 14-19.
- Kotenko, S.V. and Pestka, S. 2000. JAK-Stat signal transduction pathway through the eyes of cytokine class II receptor complexes. *Oncogene* 19: 2557-2565.
- Sanceau, J., et al. 2000. IFN- β induces serine phosphorylation of Stat1 in Ewing's sarcoma cells and mediates apoptosis via induction of IRF-1 and activation of caspase-7. *Oncogene* 19: 3372-3383.
- Negoro, S., et al. 2000. Activation of JAK/Stat pathway transduces cytoprotective signal in rat acute myocardial infarction. *Cardiovasc. Res.* 47: 797-805.
- Bianchi, M., et al. 2000. Inhibition of IL-2-induced JAK-Stat signaling by glucocorticoids. *Proc. Natl. Acad. Sci. USA* 97: 9573-9578.

CHROMOSOMAL LOCATION

Genetic locus: TYK2 (human) mapping to 19p13.2; Tyk2 (mouse) mapping to 9 A3.

SOURCE

Tyk 2 (51) is a mouse monoclonal antibody raised against amino acids 46-258 of Tyk 2 of human origin.

PRODUCT

Each vial contains 50 μ g IgG_{2a} in 500 μ l PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Tyk 2 (51) is recommended for detection of Tyk 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Tyk 2 siRNA (h): sc-36764, Tyk 2 siRNA (m): sc-36765, Tyk 2 shRNA Plasmid (h): sc-36764-SH, Tyk 2 shRNA Plasmid (m): sc-36765-SH, Tyk 2 shRNA (h) Lentiviral Particles: sc-36764-V and Tyk 2 shRNA (m) Lentiviral Particles: sc-36765-V.

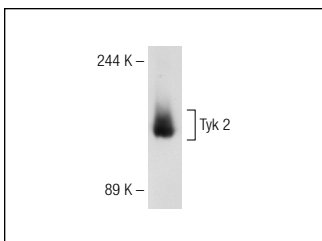
Molecular Weight of Tyk 2: 115/130 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Jurkat whole cell lysate: sc-2204 or A-431 whole cell lysate: sc-2201.

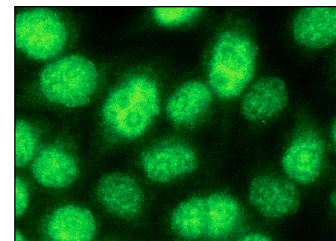
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Tyk 2 (51): sc-136265. Western blot analysis of Tyk 2 expression in Jurkat whole cell lysate.



Tyk 2 (51): sc-136265. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Davoodi-Semiromi, A., et al. 2012. The tyrophostin agent AG490 prevents and reverses type 1 diabetes in NOD mice. *PLoS ONE* 7: e36079.

STORAGE

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

PROTOCOLS

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