SANTA CRUZ BIOTECHNOLOGY, INC.

Tyk 2 (C-8): sc-5271

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

Tyk 2 (C-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1155-1187 at the C-terminus of Tyk 2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Tyk 2 (C-8) is available conjugated to agarose (sc-5271 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-5271 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-5271 PE), fluorescein (sc-5271 FITC), Alexa Fluor® 488 (sc-5271 AF488), Alexa Fluor® 546 (sc-5271 AF546), Alexa Fluor® 594 (sc-5271 AF594) or Alexa Fluor® 647 (sc-5271 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-5271 AF680) or Alexa Fluor® 790 (sc-5271 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-5271 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Tyk 2 (C-8) 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 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).

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.

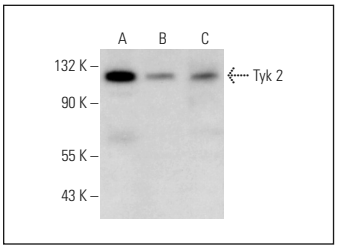
Molecular Weight of Tyk 2: 115/130 kDa.

Positive Controls: c4 whole cell lysate: sc-364186.

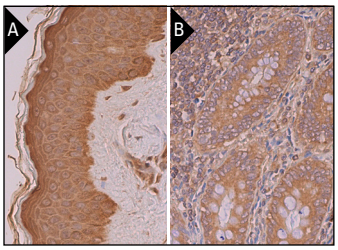
STORAGE

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

DATA



Tyk 2 (C-8): sc-5271. Western blot analysis of Tyk 2 expression in c4 (**A**), Neuro-2A (**B**) and C6 (**C**) whole cell lysates.



Tyk 2 (C-8): sc-5271. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic and nuclear staining of keratinocytes, fibroblasts, Langerhans cells and melanocytes (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells and lymphoid cells (**B**).

SELECT PRODUCT CITATIONS

1. Rajasingh, J., et al. 2006. Curcumin induces growth-arrest and apoptosis in association with the inhibition of constitutively active JAK/Stat pathway in T cell leukemia. Biochem. Biophys. Res. Commun. 340: 359-368.
2. Choudhary, C., et al. 2007. Activation mechanisms of Stat5 by oncogenic Flt3-ITD. Blood 110: 370-374.
3. Lyashenko, N., et al. 2011. Differential requirement for the dual functions of β-catenin in embryonic stem cell self-renewal and germ layer formation. Nat. Cell Biol. 13: 753-761.
4. Zheng, H., et al. 2011. Tyrosine phosphorylation of protein kinase D2 mediates ligand-inducible elimination of the type 1 interferon receptor. J. Biol. Chem. 286: 35733-35741.
5. Muller, S., et al. 2014. SIAH2 antagonizes TYK2-Stat3 signaling in lung carcinoma cells. Oncotarget 5: 3184-3196.
6. Liu, Y., et al. 2014. Enterovirus 71 inhibits cellular type I interferon signaling by downregulating JAK1 protein expression. Viral Immunol. 27: 267-276.
7. Xiang, M., et al. 2016. Gene expression-based discovery of atovaquone as a Stat3 inhibitor and anticancer agent. Blood 128: 1845-1853.
8. Liang, W.C., et al. 2020. Signaling mechanisms of growth hormone-releasing hormone receptor in LPS-induced acute ocular inflammation. Proc. Natl. Acad. Sci. USA 117: 6067-6074.
9. Bastard, P., et al. 2021. Herpes simplex encephalitis in a patient with a distinctive form of inherited IFNAR1 deficiency. J. Clin. Invest. 131: e139980.

RESEARCH USE

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

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