10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

TYK2 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7724a

Product Information

Application	WB, IHC-P, E
Primary Accession	P29597
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB3553/3554
Calculated MW	133650
Antigen Region	1-30

Additional Information

Gene ID	7297
Other Names	Non-receptor tyrosine-protein kinase TYK2, TYK2
Target/Specificity	This TYK2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1~30 amino acids from the N-terminal region of human TYK2.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	TYK2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TYK2 (HGNC:12440)
Function	Non-membrane spanning protein tyrosine kinase involved in numerous cytokines and interferons signaling, which regulates cell growth, development, cell migration, innate and adaptive immunity (PubMed:10542297, PubMed:10995743, PubMed:7657660, PubMed:7813427, PubMed:8232552). Plays both structural and catalytic roles in numerous interleukins and

	interferons (IFN-alpha/beta) signaling (PubMed:10542297). Associates with heterodimeric cytokine receptor complexes and activates STAT family members including STAT1, STAT3, STAT4 or STAT6 (PubMed:10542297, PubMed:7638186). The heterodimeric cytokine receptor complexes are composed of (1) a TYK2-associated receptor chain (IFNAR1, IL12RB1, IL10RB or IL13RA1), and (2) a second receptor chain associated either with JAK1 or JAK2 (PubMed:10542297, PubMed:25762719, PubMed:7526154, PubMed:7813427). In response to cytokine-binding to receptors, phosphorylates and activates receptors (IFNAR1, IL12RB1, IL10RB or IL13RA1), creating docking sites for STAT members (PubMed:7526154, PubMed:7657660). In turn, recruited STATs are phosphorylated by TYK2 (or JAK1/JAK2 on the second receptor chain), form homo- and heterodimers, translocate to the nucleus, and regulate cytokine/growth factor responsive genes (PubMed:10542297, PubMed:25762719, PubMed:7657660). Negatively regulates STAT3 activity by promototing phosphorylation at a specific tyrosine that differs from the site used for signaling (PubMed:29162862). Involved in the oncostatin-M-mediated signaling pathway through both type I OSM receptor complex (heterodimers composed of LIFR and IL6ST) and type II OSM receptor complex (heterodimers composed of OSMR and IL6ST) (PubMed:9188471).
Tissue Location	Observed in all cell lines analyzed. Expressed in a variety of lymphoid and non-lymphoid cell lines

Background

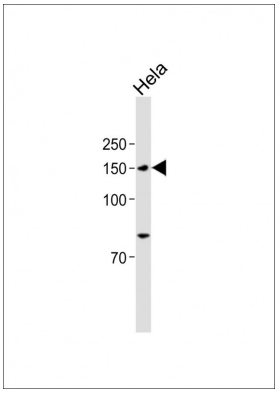
Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the g phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains. The STE group (homologs of yeast Sterile 7, 11, 20 kinases) consists of 50 kinases related to the mitogen-activated protein kinase (MAPK) cascade families (Ste7/MAP2K, Ste11/MAP3K, and Ste20/MAP4K). MAP kinase cascades, consisting of a MAPK and one or more upstream regulatory kinases (MAPKKs) have been best characterized in the yeast pheromone response pathway. Pheromones bind to Ste cell surface receptors and activate yeast MAPK pathway.

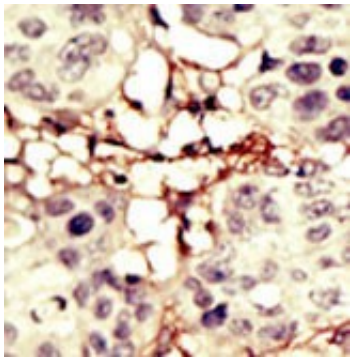
References

Ragimbeau, J., et al., EMBO J. 22(3):537-547 (2003).
Trask, B., et al., Genomics 15(1):133-145 (1993).
Firmbach-Kraft, I., et al., Oncogene 5(9):1329-1336 (1990).
Krolewski, J.J., et al., Oncogene 5(3):277-282 (1990).

Images

All lanes: Anti-TYK2Antibody(N-term) at 1:1000 dilution + Hela whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 150 KDa Blocking/Dilution buffer: 5% NFDM/TBST.





Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.