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Tyk2 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1072a

Product Information

Application	WB, E
Primary Accession	P29597
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	8G8B3; 8G8E9; 8G9H5
Isotype	IgG1
Calculated MW	133650
Description	Tyk2 (tyrosine kinase 2),with 1187-amino acid protein (about 131kDa), belongs to the family of non-receptor janus tyrosine kinases, which also includes Jak1, Jak2, and Jak3. Kinases of the Jak family regulate a spectrum of cellular functions downstream of activated cytokine receptors in the lympho-hematopoietic system. Tyk2 is activated by a variety of cytokines: IFN-alpha, IFN-beta, IL-6, IL-10, IL-12, and IL-13 and promotes IFN-gamma production by Th1-type CD4 cells. Tyk2 can be viewed as a dual-function Jak, mediating both pro-inflammatory and anti-inflammatory cytokine responses. Tyk2 is also an important regulator of lymphoid tumor surveillance.
Immunogen	Purified recombinant fragment of Tyk2 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	7297
Other Names	Non-receptor tyrosine-protein kinase TYK2, 2.7.10.2, TYK2
Dilution	WB~~1/500 - 1/2000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Tyk2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TYK2

Function	Tyrosine kinase of the non-receptor type 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).
Tissue Location	Observed in all cell lines analyzed. Expressed in a variety of lymphoid and non-lymphoid cell lines

References

1. Michael H. Shaw, Gordon J. Freeman, Mark F. Scott. J. Immunol., Jun 2006; 176: 7263-7271. 2. Yohei Seto, Hiroshi Nakajima, Akira Suto. J. Immunol., Jan 2003; 170: 1077.

Images

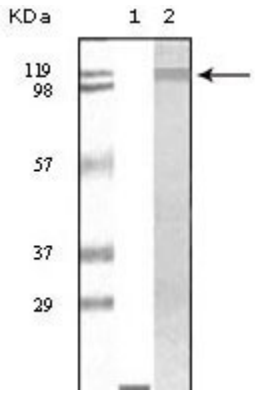

Figure 1: Western blot analysis using TYK2 mouse mAb against truncated TYK2 recombinant protein (1) and Jurkat cell lysate(2).

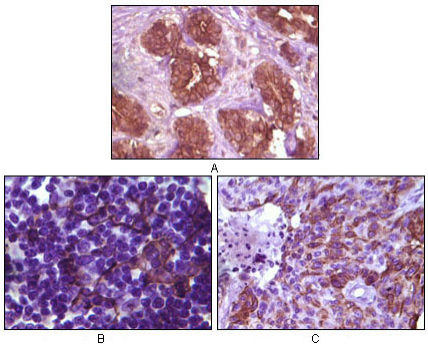

Figure 1: Immunohistochemical analysis of paraffin-embedded human breast tissue (A), lymph tissue (B) and skin carcinoma (C), showing membrane localization using BLK mouse mAb with DAB staining.