Revision 1

Store at -20C

#14193

Tyk2 (D4I5T) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H Mk	Endogenous	134	Rabbit IgG	#P29597	7297

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

Specificity/Sensitivity

Tyk2 (D4I5T) Rabbit mAb recognizes endogenous levels of total Tyk2 protein. A band of unknown identity at 55 kDa is detected in some cell lines.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human Tyk2 protein.

Background

Tyk2 is a member of the Jak family of protein tyrosine kinases. It associates with and is activated by receptors for many cytokines including IL-13, the IL-6 family, IL-10, and IFN-α and β (1-3). Following ligand binding, Tyk2 is activated by phosphorylation of Tyr1054 and/or Tyr1055 (4). Tyk2 is required for the tyrosine phosphorylation of Stat3 in the IFN-β signaling cascade (5).
The role of Tyk2 has been extensively studied in terms of its involvement in immune regulation and pathological significance (reviewed in 6). Deletion of Tyk2 in mice results in increased sensitivity to infection and defective tumor surveillance, but only a partial effect on Type I interferon signaling (7, 8). In contrast, a human patient diagnosed with hyper-IgE syndrome having increased susceptibility to various microorganisms was found to have a homozygous mutation of Tyk2 (9). These studies suggest a more critical role of Tyk2 in humans with regards to Type I interferon signaling as well as other cytokines including IL-23, IL-6, and IL-10.

Background References

1. Velazquez, L. et al. (1995) *J. Biol. Chem.* 270, 3327-34.
2. Stahl, N. et al. (1994) *Science* 263, 92-5.
3. Leonard, W.J. (1998) *Annu. Rev. Immunol.* 16, 293-322.
4. Gauzzi, M.C. et al. (1996) *J Biol Chem* 271, 20494-500.
5. Rani, M.R. et al. (1999) *J. Biol. Chem.* 274, 32507-11.
6. Strobl, B. et al. (2011) *Front Biosci (Landmark Ed)* 16, 3214-32.
7. Karaghiosoff, M. et al. (2000) *Immunity* 13, 549-60.
8. Shimoda, K. et al. (2000) *Immunity* 13, 561-71.
9. Minegishi, Y. et al. (2006) *Immunity* 25, 745-55.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **Mk:** Monkey

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Limited Uses

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