

**Stat1 (D1K9Y) Rabbit mAb**

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<b>Applications:</b> W, W-S, IP, IHC-P, IF-IC, FC-FP, ChIP, C&R	<b>Reactivity:</b> H M R Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 84, 91	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #P42224	<b>Entrez-Gene Id:</b> 6772
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**Product Usage Information**

For optimal ChIP results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 10<sup>6</sup> cells) per IP. This antibody has been validated using SimpleChIP® Enzymatic Chromatin IP Kits.

The CUT&RUN dilution was determined using CUT&RUN Assay Kit #86652.

**Application**

Application	Dilution
Western Blotting	1:1000
Simple Western™	1:10 - 1:50
Immunoprecipitation	1:100
Immunohistochemistry (Paraffin)	1:1600 - 1:6400
Immunofluorescence (Immunocytochemistry)	1:200 - 1:800
Flow Cytometry (Fixed/Permeabilized)	1:100 - 1:400
Chromatin IP	1:50
CUT&RUN	1:50

**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.*

For a carrier free (BSA and azide free) version of this product see product #65748.

**Specificity/Sensitivity**

Stat1 (D1K9Y) Rabbit mAb recognizes endogenous levels of total Stat1 protein. This antibody also cross-reacts with an unidentified protein of 150 kDa.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro688 of human Stat1 protein.

**Background**

The Stat1 transcription factor is activated in response to a large number of ligands (1) and is essential for responsiveness to IFN-α and IFN-γ (2,3). Phosphorylation of Stat1 at Tyr701 induces Stat1 dimerization, nuclear translocation, and DNA binding (4). Stat1 protein exists as a pair of isoforms, Stat1α (91 kDa) and the splice variant Stat1β (84 kDa). In most cells, both isoforms are activated by IFN-α, but only Stat1α is activated by IFN-γ. The inappropriate activation of Stat1 occurs in many tumors (5). In addition to tyrosine phosphorylation, Stat1 is also phosphorylated at Ser727 through a p38 mitogen-activated protein kinase (MAPK)-dependent pathway in response to IFN-α and other cellular stresses (6). Serine phosphorylation may be required for the maximal induction of Stat1-mediated gene activation.

**Background References**

1. Heim, M.H. (1999) *J Recept Signal Transduct Res* 19, 75-120.
2. Durbin, J.E. et al. (1996) *Cell* 84, 443-50.
3. Meraz, M.A. et al. (1996) *Cell* 84, 431-42.
4. Ihle, J.N. et al. (1994) *Trends Biochem Sci* 19, 222-7.
5. Frank, D.A. (1999) *Mol Med* 5, 432-56.
6. Wen, Z. et al. (1995) *Cell* 82, 241-50.

**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 **W-S:** Simple Western™ **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized) **ChIP:** Chromatin IP **C&R:** CUT&RUN

## Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

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