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#4323

Phospho-Stat3 (Tyr705) (D3A7) XP[®] Rabbit mAb (Alexa Fluor[®] 488 Conjugate)



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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	H M R Mk	Endogenous	Rabbit IgG	#P40763	6774

Product Usage Information

Application

Flow Cytometry (Fixed/Permeabilized)

Dilution

1:50

Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity/Sensitivity

Phospho-Stat3 (Tyr705) (D3A7) XP[®] Rabbit mAb (Alexa Fluor[®] 488 Conjugate) detects endogenous levels of Stat3 only when phosphorylated at Tyr705. This antibody does not cross-react with phospho-EGFR or the corresponding phospho-tyrosines of other Stat proteins.

Species predicted to react based on 100% sequence homology

Hamster, Bovine, Pig, Horse

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr705 of mouse Stat3. The antibody was conjugated to Alexa Fluor[®] 488 under optimal conditions with an F/P ratio of 2-6.

Description

This Cell Signaling Technology antibody conjugated to Alexa Fluor[®] 488 fluorescent dye and tested in-house for direct flow cytometric analysis of human cells. The unconjugated antibody #9145 reacts with Phospho-Stat3 (Tyr705) from human, mouse and rat. CST expects that Phospho-Stat3 (Tyr705) (D3A7) XP[®] Rabbit mAb (Alexa Fluor[®] 488 Conjugate) will also recognize Phospho-Stat3 in these species.

Background

The Stat3 transcription factor is an important signaling molecule for many cytokines and growth factor receptors (1) and is required for murine fetal development (2). Research studies have shown that Stat3 is constitutively activated in a number of human tumors (3,4) and possesses oncogenic potential (5) and anti-apoptotic activities (3). Stat3 is activated by phosphorylation at Tyr705, which induces dimerization, nuclear translocation, and DNA binding (6,7). Transcriptional activation seems to be regulated by phosphorylation at Ser727 through the MAPK or mTOR pathways (8,9). Stat3 isoform expression appears to reflect biological function as the relative expression levels of Stat3 α (86 kDa) and Stat3 β (79 kDa) depend on cell type, ligand exposure, or cell maturation stage (10). It is notable that Stat3 β lacks the serine phosphorylation site within the carboxy-terminal transcriptional activation domain (8).

Background References

1. Heim, M.H. (2001) *J Recept Signal Transduct Res* 19, 75-120.
2. Takeda, K. et al. (1997) *Proc Natl Acad Sci U S A* 94, 3801-4.
3. Catlett-Falcone, R. et al. (1999) *Immunity* 10, 105-15.
4. Garcia, R. and Jove, R. (1998) *J Biomed Sci* 5, 79-85.
5. Bromberg, J.F. et al. (1999) *Cell* 98, 295-303.
6. Darnell, J.E. et al. (1994) *Science* 264, 1415-21.
7. Ihle, J.N. (1995) *Nature* 377, 591-4.
8. Wen, Z. et al. (1995) *Cell* 82, 241-50.
9. Yokogami, K. et al. (2000) *Curr Biol* 10, 47-50.
10. Biethahn, S. et al. (1999) *Exp Hematol* 27, 885-94.

Species Reactivity

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

Applications Key

FC-FP: Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

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

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