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NFAT1 (D43B1) XP[®] Rabbit mAb (Alexa Fluor[®] 647 Conjugate)
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Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	H M	Endogenous	Rabbit IgG	#Q13469	4773

Product Usage Information**Application**

Flow Cytometry (Fixed/Permeabilized)

Dilution

1:50

StorageSupplied 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**NFAT1 (D43B1) XP[®] Rabbit mAb (Alexa Fluor[®] 647 Conjugate) detects endogenous levels of total NFAT1 protein.**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly87 of human NFAT1 protein.

DescriptionThis Cell Signaling Technology antibody is conjugated to Alexa Fluor[®] 647 fluorescent dye and tested in-house for direct flow cytometry analysis in human cells. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated NFAT1 (D43B1) XP[®] Rabbit mAb #5861.**Background**

The NFAT (nuclear factor of activated T cells) family of proteins consists of NFAT1 (NFATc2 or NFATp), NFAT2 (NFATc1 or NFATc), NFAT3 (NFATc4), and NFAT4 (NFATc3 or NFATx). All members of this family are transcription factors with a Rel homology domain and regulate gene transcription in concert with AP-1 (Jun/Fos) to orchestrate an effective immune response (1,2). NFAT proteins are predominantly expressed in cells of the immune system, but are also expressed in skeletal muscle, keratinocytes, and adipocytes, regulating cell differentiation programs in these cells (3). In resting cells, NFAT proteins are heavily phosphorylated and localized in the cytoplasm. Increased intracellular calcium concentrations activate the calcium/calmodulin-dependent serine phosphatase calcineurin, which dephosphorylates NFAT proteins, resulting in their subsequent translocation to the nucleus (2). Termination of NFAT signaling occurs upon declining calcium concentrations and phosphorylation of NFAT by kinases such as GSK-3 or CK1 (3,4). Cyclosporin A and FK506 are immunosuppressive drugs that inhibit calcineurin and thus retain NFAT proteins in the cytoplasm (5).

Background References

1. Northrop, J.P. et al. (1993) *J Biol Chem* 268, 2917-23.
2. Hogan, P.G. et al. (2003) *Genes Dev* 17, 2205-32.
3. Crabtree, G.R. and Olson, E.N. (2002) *Cell* 109 Suppl, S67-79.
4. Okamura, H. et al. (2004) *Mol Cell Biol* 24, 4184-95.
5. Shaw, K.T. et al. (1995) *Proc Natl Acad Sci U S A* 92, 11205-9.

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**Trademarks and Patents**

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