

#5861 Store at -20C

# NFAT1 (D43B1) XP® Rabbit mAb



**Cell Signaling**  
TECHNOLOGY®

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

| Applications:               | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|-----------------------------|-------------|--------------|-----------|-----------------|-------------|-----------------|
| WB, IP, IHC-P, IF-IC, FC-FP | H M         | Endogenous   | 140       | Rabbit IgG      | #Q13469     | 4773            |

## Product Usage Information

### Application

Western Blotting  
Immunoprecipitation  
Immunohistochemistry (Paraffin)  
Immunofluorescence (Immunocytochemistry)  
Flow Cytometry (Fixed/Permeabilized)

### Dilution

1:1000  
1:200  
1:100 - 1:400  
1:50 - 1:200  
1:200 - 1:800

## 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 #36325.

## Specificity / Sensitivity

NFAT1 (D43B1) XP® Rabbit mAb 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.

## 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).

## 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

**WB:** Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin)  
**IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

## Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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