Revision 1

#3053 Store at -20C

NTF2 (5A3) Mouse mAb

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355) orders@cellsignal.com

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3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IF-IC	H M R Mk	Endogenous	14	Mouse IgG2a	#P61970	10204

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunofluorescence (Immunocytochemistry)	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.

Specificity / Sensitivity

NTF2 (5A3) Mouse mAb detects endogenous levels of total NTF2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with full-length recombinant human NTF2.

Background

The small GTPase Ran resides on both the cytosolic and nucleosolic sides of the nuclear pore complex (NPC) and regulates the import and export of various proteins to and from the nucleus. Like other small GTPases, Ran exists in either a GTP-bound or GDP-bound state. RanGTP that resides in the nucleus and promotes nuclear export, while cytosolic RanGDP promotes import. The gradient of RanGTP across the nuclear membrane allows for appropriate movement of cargo proteins across the NPC as well as maintenance of the mitotic spindle (1-3).
Nuclear transport factor 2 (NTF2) regulates the subcellular distribution and function of Ran (4-5). The NTF2 homodimer facilitates the diffusion of RanGDP through NPCs via transient interactions with phenylalanine-glycine (FG) repeat domains on NPC proteins. NTF2 stabilizes the GDP-bound form of Ran until it is induced to dissociate by a nuclear factor in an ATP-dependent manor, thus allowing the guanine nucleotide exchange factor (GEF) RCC1 to mediate exchange of GDP for GTP on Ran (6-7).

Background References

1. Mattaj, I.W. and Englmeier, L. (1998) *Annu Rev Biochem* 67, 265-306.
2. Kalab, P. et al. (2002) *Science* 295, 2452-6.
3. Becskei, A. and Mattaj, I.W. (2003) *Proc Natl Acad Sci USA* 100, 1717-22.
4. Ribbeck, K. et al. (1998) *EMBO J* 17, 6587-98.
5. Steggerda, S.M. et al. (2000) *Mol Biol Cell* 11, 703-19.
6. Stewart, M. (2000) *Cell Struct Funct* 25, 217-25.
7. Yamada, M. et al. (2004) *J Biol Chem* 279, 36228-34.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IF-IC:** Immunofluorescence (Immunocytochemistry)

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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Limited Uses

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