

Store at -20C
#9380

Phospho-RanBP3 (Ser58) Antibody



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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H Mk	Endogenous	70	Rabbit	#Q9H6Z4	8498

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

Phospho-RanBP3 (Ser58) Antibody recognizes endogenous levels of RanBP3b protein only when phosphorylated at Ser58, and RanBP3a protein only when phosphorylated at corresponding residue Ser126.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser58 of human RanBP3b protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

RanBP3 was originally identified as RanGTP binding protein located in the nucleus and involved in the nuclear exporting process (1). It functions as a cofactor for CRM1 nuclear export by binding to CRM1, stabilizing the RanGTP-CRM1-cargo interaction and promoting complex association with nuclear pore proteins (2,3). In the absence of Ran-bound GTP, RanBP3 prevents binding of CRM1 complex to the nuclear pore complex. In addition to CRM1, RanBP3 also has been shown to bind to RanGEF-RCC1 and increase the guanine nucleotide exchange activity of RCC1 for RanGTP-CRM1-Cargo (1,4). In some cases, as with β-catenin and Smad2/3, RanBP3 binding may mediate the target protein nuclear export in a Ran-dependent, but CRM1-independent manner (5,6). RanBP3 is phosphorylated at Ser58 through the PI3K/Akt or ERK/RSK pathway. This phosphorylation is important for RanBP3 function in nuclear export, likely due to stimulation of RCC1 activity (7,8).

Background References

- Mueller, L. et al. (1998) *FEBS Lett* 427, 330-6.
- Lindsay, M.E. et al. (2001) *J Cell Biol* 153, 1391-402.
- Englmeier, L. et al. (2001) *EMBO Rep* 2, 926-32.
- Nemergut, M.E. et al. (2002) *J Biol Chem* 277, 17385-8.
- Hendriksen, J. et al. (2005) *J Cell Biol* 171, 785-97.
- Dai, F. et al. (2009) *Dev Cell* 16, 345-57.
- Yoon, S.O. et al. (2008) *Mol Cell* 29, 362-75.
- von Knethen, A. et al. (2010) *J Cell Sci* 123, 192-201.

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

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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