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#8780

RanBP1 Antibody

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

Applications: W	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 27	Source/Isotype: Rabbit	UniProt ID: #P43487	Entrez-Gene Id: 5902
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Product Usage Information

Application

Western Blotting

Dilution

1:1000

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

RanBP1 Antibody recognizes endogenous levels of total RanBP1 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Thr193 of human RanBP1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

RanBP1 is a Ran binding protein that functions in nuclear trafficking for both nuclear import and export (1-3). Its protein sequence contains a Ran binding domain and a C-terminal nuclear export signal, which maintains its cytoplasmic localization (2,3). During nuclear export, RanBP1 forms a complex with RanGTP and CRM1/cargo, leading to dissociation of cargo from CRM1 (2,4). RanBP1 further stimulates RanGTP-RanGAP1 association to facilitate RanGTP hydrolysis and the generation of RanGDP to complete the final steps of nuclear export (5). During nuclear import, RanBP1 stabilizes the formation of a RanGDP-importin/NLS receptor-RanBP1 complex. This complex regulates the release of imported cargo into the nucleus (6,7). In addition to nuclear trafficking, RanBP1 also controls RanGTP distribution along mitotic microtubules, which localizes critical factors, such as cyclin B1 and HURP, to mitotic microtubules and regulates chromosome segregation (8,9). *In vivo* knock down or overexpression of RanBP1 has been shown to affect cellular ciliogenesis by regulating the local RanGTP concentration at the base of cilia (10).

Background References

1. Bischoff, F.R. et al. (1995) *EMBO J* 14, 705-15.
2. Kehlenbach, R.H. et al. (1999) *J Cell Biol* 145, 645-57.
3. Richards, S.A. et al. (1996) *J Cell Biol* 134, 1157-68.
4. Koyama, M. and Matsuura, Y. (2010) *EMBO J* 29, 2002-13.
5. Seewald, M.J. et al. (2003) *Mol Cell Biol* 23, 8124-36.
6. Chi, N.C. et al. (1996) *J Cell Biol* 135, 559-69.
7. Lonhienne, T.G. et al. (2009) *J Biol Chem* 284, 22549-58.
8. Tedeschi, A. et al. (2007) *J Cell Sci* 120, 3748-61.
9. Di Fiore, B. et al. (2003) *J Cell Sci* 116, 3399-411.
10. Fan, S. et al. (2011) *Mol Biol Cell* 22, 4539-48.

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

W: Western Blotting

Cross-Reactivity Key

H: Human

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