Revision 1

Phospho-Numb (Ser276) Antibody

#4140 Store at -20C

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	72, 74	Rabbit	#P49757	8650

Product Usage Information

Application	Dilution
Western Blotting	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

Phospho-Numb (Ser276) Antibody detects endogenous levels of Numb protein only when phosphorylated on Ser276.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to Ser276 of the human Numb protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Numb contains an amino-terminal phosphotyrosine binding (PTB) domain and carboxy-terminal endocytic binding motifs for α-adaptin and EH (Eps15 homology) domain-containing proteins, indicating a role in endocytosis (1,2). There are four mammalian Numb splicing isoforms that are differentially expressed and may have distinct functions (3-5). Numb acts as a negative regulator of Notch signaling by promoting ubiquitination and degradation of Notch (6). The protein is asymmetrically segregated into one daughter cell during cell division, producing two daughter cells with different responses to Notch signaling and different cell fates (7,8). The localization of Numb can also be regulated by G protein-coupled receptor (GPCR) and protein kinase C (PKC) signaling (9).

Numb can be phosphorylated at several sites including Ser7, Ser276 and Ser295. Phosphorylation at these sites regulates asymmetric membrane localization of Numb and integrin endocytosis (10-12).

Background References

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4. Verdi, J.M. et al. (1999) *Proc. Natl. Acad. Sci. USA* 96, 10472-10476.
5. Toriya, M. et al. (2006) *Dev. Neurosci.* 28, 142-155.
6. McGill, M.A. and McGlade, C.J. (2003) *J. Biol. Chem.* 278, 23196-23203.
7. Verdi, J.M. et al. (1996) *Curr. Biol.* 6, 1134-1145.
8. Reugels, A.M. et al. (2006) *Dev. Dyn.* 235, 934-948.
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10. Nishimura, T. and Kaibuchi, K. (2007) *Dev Cell* 13, 15-28.
11. Smith, C.A. et al. (2007) *EMBO J.* 26, 468-480.
12. Wirtz-Peitz, F. et al. (2008) *Cell* 135, 161-173.

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 **M:** Mouse **R:** Rat **Mk:** Monkey

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