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Product Information

Anti-NUMB (C-terminal)
produced in rabbit, affinity isolated antibody

Product Number **N6539**

Product Description

Anti-NUMB (C-terminal) is produced in rabbit using as the immunogen a synthetic peptide corresponding to a sequence at the C-terminal of human NUMB (GeneID: 8650), conjugated to KLH. The corresponding sequence is identical in human NUMB isoforms 1-4 and in mouse NUMB, and is highly conserved (88% identity) in rat NUMB. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-NUMB (C-terminal) specifically recognizes human NUMB. The antibody may be used in various immunochemical techniques including immunoblotting (~70 kDa, doublet band). Detection of the NUMB bands by immunoblotting is specifically inhibited by the NUMB immunizing peptide.

The Notch signaling pathway is considered vital to the ontogeny and lineage specification of neural stem cell (NSC) populations. In the central nervous system (CNS), Notch signaling is required for stem cell maintenance, and later in development, for astrocytic differentiation of NSC populations. Notch is essential in neuronal maturation, learning and memory, and may contribute to the pathogenesis of Alzheimer's disease.[1]

Numb is a critical Notch antagonist and a conserved adapter protein that plays a role in the self-renewal of NSCs and neural differentiation in the CNS.[2,3] Loss of numb function in mice results in embryonic lethality and precocious neuronal differentiation at the expense of neural progenitors in the CNS. In addition, the mammalian *Numb* gene gives rise to at least four alternatively spliced transcripts that produce four protein isoforms Numb1-4, ranging from 65 to 72 kDa. It has been suggested that a switch in numb isoform expression is a critical step in cortical development.[3,4] Numb1 or numb3 isoforms that contain an insertion in the proline-rich region (PRR_L), promote the proliferation of neural crest stem cells (NCSCs), whereas ectopic expression of numb2 or numb4 isoforms without PRR insertions (PRR_S) lead to an enhanced neuronal differentiation.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 1-2 μg/mL is recommended using a rat brain extract (S1 fraction) and A431 cell lysate.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. Morrison, S.J. et al., *Curr. Opin. Cell Biol.,* **13**, 666-672 (2001).
2. Petersen, P.H. et al., *Nature Neurosci.,* **7**, 803-811 (2004).
3. Verdi, J.M. et al., *Proc. Natl. Acad. Sci. USA,* **96**, 10472-10476 (1999).
4. Bani-Yaghoub, M. et al., *Dev. Dyn.*, **236**, 696-705 (2007).

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