

Product Information

Anti-NAV3 (N-terminal)

produced in rabbit, affinity isolated antibody

Catalog Number **N4038**

Product Description

Anti-NAV3 (N-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 939-956 of human NAV3 (GeneID: 89795) conjugated to KLH. The corresponding sequence is highly conserved (83% identity) in mouse and rat NAV3. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-NAV3 (N-terminal) specifically recognizes human NAV3 by immunoblotting (~280 kDa). Staining of the NAV3 band is specifically inhibited by the immunizing peptide.

Cell migration is a complex cellular process that is central to the morphogenesis of the embryo during development, in homeostatic processes such as immune response and the repair of injured tissues. In addition, it contributes to pathologies including vascular disease, chronic inflammatory diseases, tumor formation and metastasis. NAV3 (neuron navigator 3, also known as unc-53H3, steerin3, POMFIL1) belongs to the neuron navigator (NAV) family of proteins that show homology to the *c. elegans* unc-53 gene involved in axon guidance.¹⁻⁴ There are three known human unc53 homologs, NAV1, NAV2 and NAV3 that share 45% sequence homology. Like unc-53, NAV proteins contain several coil-coiled domains, a conserved AAA domain characteristic of ATPases associated with a variety of cellular activities, an ATP/GTP binding site motif, and a calponin-like (CH) domain that is highly conserved between unc-53 and NAV2 and NAV3 but is lacking in NAV1. NAV proteins are predominantly expressed in the nervous system. NAV1, NAV2 and NAV3 expression is detected in adult heart, kidney and brain, respectively. NAV1 and NAV2 are expressed in the developing brain.¹ POMFIL1/NAV3 expression is strongly reduced in several neuroblastoma cell lines and is upregulated after brain injury.³ NAV3 has been suggested to function as a novel tumor suppressor gene. Deletions and translocation affecting NAV3 have

been shown to occur in patients with advanced mycosis fungoides or Sézary syndrome, the most common forms of primary cutaneous T-cell lymphoma (CTCL), suggesting that it may provide a novel diagnostic tool.⁵⁻⁷

Reagent

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

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material 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. 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 concentration of 1-2 µg/mL is recommended using HEK-293T cells lysate expressing human NAV3 fusion protein.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Maes, T., et al., *Genomics*, **90**, 21-30 (2002).
2. Stringham, E., et al., *Development*, **129**, 3367-3379 (2002).
3. Coy, J.F., et al., *Gene*, **290**, 73-94 (2002).
4. Merrill, R.A., et al., *Proc. Natl. Acad. Sci. USA*, **99**, 3422-3427 (2002).

5. Karenko, L., et al., *Cancer Res.*, **65**, 8101-8110 (2005).
6. Sterry, W., et al., *Oncology*, **21**, 13-17 (2007).

7. Hahtola, S., et al., *Genes Chrom. Cancer*, **47**, 107-117 (2008).

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