

Product Information

Anti-NUCB2 (N-terminal)

produced in rabbit, affinity isolated antibody

Product Number **N9414**

Product Description

Anti-NUCB2 (N-terminal) is produced in rabbit using as the immunogen a synthetic peptide corresponding to a sequence at the N-terminal of rat NUCB2 (GeneID 59295), conjugated to KLH. The corresponding sequence is highly conserved in mouse (90% identity) and human (80% identity) NUCB2. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-NUCB2 (N-terminal) specifically recognizes rat and mouse NUCB2. The antibody can be used in several immunochemical techniques including immunoblotting (~54 kDa) and immunofluorescence. Detection of the NUCB2 band by immunoblotting is specifically inhibited by the NUCB2 immunizing peptide.

NUCB2 (nucleobindin 2, also known as NEFA, p54) belongs to the nucleobindin family of EF-hand Ca^{2+} -binding proteins that have been implicated in various functions, including Ca^{2+} homeostasis, hypothalamic regulation of feeding, and TNF-receptor-1 (TNFR1) shedding.¹⁻³ Human NUCB2 has high homology (62% sequence identity) with human NUCB1, an additional member of the nucleobindin family, although they are encoded by two separate genes. NUCB1 and NUCB2 contain multiple functional domains, including a Leu/Ile-rich region, a putative nuclear localization signal, a DNA binding domain, two Ca^{2+} -binding EF-hand motifs, and a leucine zipper region. NUCB2 is widely distributed and is localized to the Golgi apparatus.^{4,5} NUCB2 has been shown to interact with both necdin and ARTS-1, both through the EF-hand motif.^{3,6} The NUCB2-ARTS-1 complex is required for the proteolytic cleavage and release of TNFR1 to the extracellular compartment. NUCB2 has been recently identified as a novel satiety molecule in the hypothalamus, associated with melanocortin signaling in the central nervous system.^{2,7} NUCB2 and its N-terminal 82-amino acid cleavage fragment, termed nesfatin-1, have been shown to induce suppression of food-intake in rats.

Reagent

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

Antibody concentration: ~1.5 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

Store at $-20\text{ }^{\circ}\text{C}$. For continuous use, the product may be stored at $2-8\text{ }^{\circ}\text{C}$ for up to one month. For extended storage, freeze in working aliquots at $-20\text{ }^{\circ}\text{C}$. 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 1.5-3.0 $\mu\text{g}/\text{mL}$ is recommended using Rat2 cell lysates, and 2-4 $\mu\text{g}/\text{mL}$ using mouse testis extracts (S1 fraction).

Immunofluorescence: a working antibody concentration of 1-2 $\mu\text{g}/\text{mL}$ is recommended using Rat2 cells.

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

References

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3. Islam, A. et al., *J. Biol. Chem.*, **281**, 6860-6873 (2006).
4. Nesselhut, J. et al., *FEBS Lett.*, **509**, 469-475 (2001).
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