

## Product Information

### Anti-NUCB1 (N-terminal)

produced in rabbit, affinity isolated antibody

Product Number **SAB4200040**

### Product Description

Anti-NUCB1 (N-terminal) is produced in rabbit using as the immunogen a synthetic peptide corresponding to a sequence at the N-terminal of human NUCB1 (GeneID 4924), conjugated to KLH. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-NUCB1 (N-terminal) specifically recognizes human NUCB1. The antibody can be used in several immunochemical techniques including immunoblotting (~62 kDa) and immunofluorescence. Detection of the NUCB1 band by immunoblotting is specifically inhibited by the NUCB1 immunizing peptide.

NUCB1 (nucleobindin 1, also known CalNuc, Nuc) belongs to the nucleobindin family of EF-hand  $\text{Ca}^{2+}$ -binding proteins that have been implicated in various functions including  $\text{Ca}^{2+}$  homeostasis.<sup>1,2</sup> Human NUCB1 has high homology (62% sequence identity) with human NUCB2, 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  $\text{Ca}^{2+}$ -binding EF-hand motifs, and a leucine zipper region. Both NUCB1 and NUCB2 are cleaved by caspases at their EF-hand motifs, suggesting that their function can be modulated in apoptosis.<sup>3</sup>

NUCB1 is highly abundant in the Golgi apparatus and expressed in a large variety of tissues.<sup>2,4,5</sup> It is localized in the cis-Golgi cisternae and the cis-Golgi network (CGN) and it has been suggested to play a key role in  $\text{Ca}^{2+}$  homeostasis in these regions.

In addition, NUCB1 plays an important role in autoimmunity and apoptosis. NUCB1 performs multiple functions including DNA-binding and regulation of transcription factor activity,<sup>6</sup> and interacts with multiple binding partners via its EF-hand motif, including G-proteins  $G_{\alpha 13}$  and  $G_{\alpha 12}$  and cyclooxygenases.<sup>7</sup> NUCB1 has been implicated as a tumor-associated antigen that is overexpressed in many colon cancer tissues.<sup>8</sup>

### 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  $2\text{--}8\text{ }^{\circ}\text{C}$  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 HepG2 cell extracts.

**Immunofluorescence:** a working antibody concentration of 1-2  $\mu\text{g}/\text{mL}$  is recommended using HeLa 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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5. Lavoie, C. et al., *Mol. Endocrinol.*, **16**, 2462-2474 (2002).
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8. Chen, Y. et al., *Int. J. Oncol.*, **30**, 1137-1144 (2007).

VS,ER,TD,KAA,PHC,MAM 06/19-1