

anti-Nucleobindin 2 / NEFA / Nesfatin precursor antibody, rabbit serum (NET1)

73-109 100 ul

Nucleobindin 2 (NUCB2), also known as **NEFA** or **Nesfatin precursor**, is a ubiquitously expressed EF-hand Ca²⁺ binding protein that is implicated in various physiological processes. **Nucleobindin 2** interacts with the postmitotic growth suppressor neclin in neurons. Both neclin and **nucleobindin 2** are expressed in differentiated neurons and skeletal muscles and these proteins are likely to be involved in the regulation of survival and death of postmitotic cells by controlling Ca²⁺ homeostasis (ref.3).

An antibody (named NET1) against mouse **nucleobindin 2** was raised in rabbit (ref.3).

Applications:

1. Western blotting (1/3,000-1/1,000).
2. Immuno-precipitation.
2. Immuno-cytochemistry (dilution: 1/1,000)
3. Immuno-histochemistry (dilution: 1/2,000)
4. Immuno-electron microscopy
5. Immuno-affinity chromatography

Immunogen: Recombinant GST-fused mouse nucleobindin 2 (aa 26-420)

Specificity: Reacts with mouse rat and human nucleobindin 2.

Form: Antiserum added with 0.05% sodium azide.

Storage: Shipped at 4°C. Aliquot and store at -20°C.

Data Link: Swiss-Prot [P81117](#) (mouse), [Q9JI85](#) (rat), [P80303](#) (human)

References: This antibody was produced and used in ref.3.

1. Barnikol-Watanabe S *et al* (1994) "Human protein NEFA, a novel DNA binding /EF-hand/leucine zipper protein. Molecular cloning and sequence analysis of the cDNA, isolation and characterization of the protein." *Biol Chem Hoppe-Seyler* **375**: 497-512 PMID: [7811391](#)
2. Kroll KA *et al* (1999) "Heterologous overexpression of human NEFA and studies on the two EF-hand calcium-binding sites." *Biochem Biophys Res Commun* **260**:1-8 PMID: [10381334](#)
3. Taniguchi N *et al* (2000) "The postmitotic growth suppressor neclin interacts with a calcium-binding protein (NEFA) in neuronal cytoplasm." *J Biol Chem* **275**: 31674-31681 PMID: [10915798](#)

Related product: #74-100 anti-Necdin antibody, rabbit serum (NC243)

to be continued

Fig.1 Western blotting using this antibody.

Distribution of nucleobindin 2 and necdin in neonatal mouse organs. Homogenates of various organs from P0 mouse were separated by 10% SDS-PAGE and immunoblotted with this antibody (upper panel) and anti-necdin antibody (lower panel).

Nucleobindin 2 immunoreactive bands (~55 kDa) were detected in all the tissues examined. Tissue levels of nucleobindin 2 were high in the lung, brain, skeletal muscle, and spleen. On the other hand, necdin was enriched in the brain and skeletal muscle, and small amounts of necdin were detected in the kidney, lung, and heart.

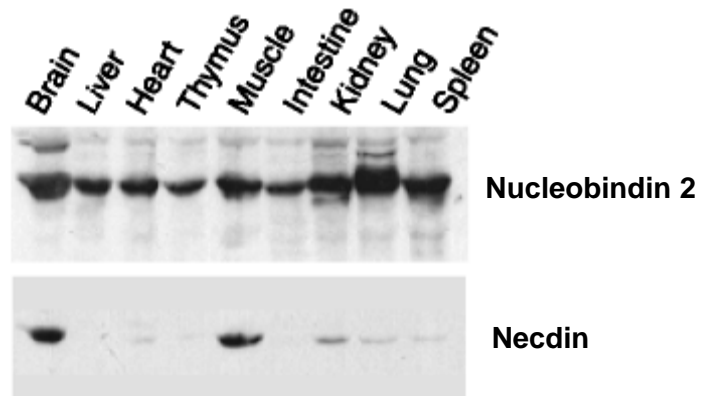


Fig.2. Immunocytochemistry for endogenous nucleobindin 2 and necdin in P19 cells.

Cells were stained with this antibody and anti-necdin antibody by the avidin-biotin-peroxidase complex method.

Left panel; undifferentiated P19 cells (UD). Right panels, enriched post-mitotic neurons (PN). Upper panels, nucleobindin 2 immuno-reactivity (Nucleobindin 2). Lower panels; necdin immuno reactivity (Necdin).

Nucleobindin 2 was localized to the cytoplasm near the nucleus in undifferentiated P19 cells, and its immunoreactivity in the cytoplasm was increased when P19 cells were induced to differentiate into neurons. On the other hand, the cytoplasm of undifferentiated cells was lightly stained for necdin, whose immunoreactivity was increased in both the cytoplasm and the nucleus of differentiated neurons.

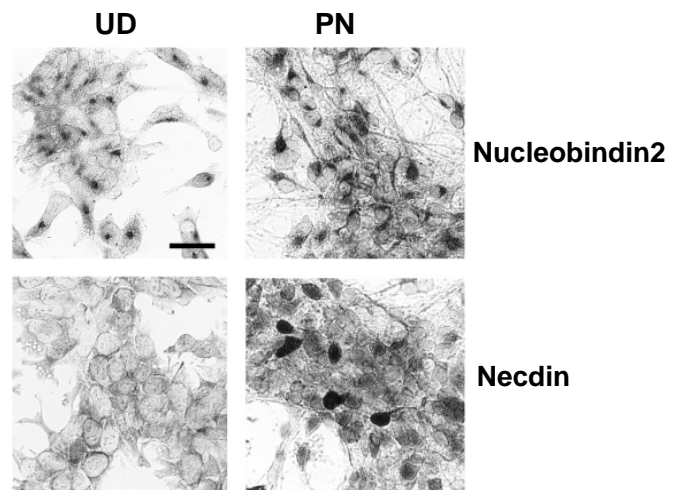


Fig.3 Immunohistochemistry for nucleobindin 2 using this antibody in neonatal mouse brain in vivo.

Frozen brain sections from P0 mouse were stained with this antibody by the avidin-biotin peroxidase complex method. A-C, cerebral cortex (parietal lobe). At higher magnification (B, C), fine granular immunoreactive materials are observed at both neuronal dendrites (arrows) and perikarya (asterisks) in the layer IV (arrowhead B in A) and subplate (arrowhead C in A) of the cerebral cortex.

Scale bars, 100 um (A) and 10um (B and C).

