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ProductInformation

Anti- Neuroglobin
produced in rabbit, affinity isolated antibody

Catalog Number **N7162**

Product Description

Anti- Neuroglobin is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 55-70 of human neuroglobin (Gene ID: 58157), conjugated to KLH. The corresponding sequence is identical in rat and mouse. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti- Neuroglobin recognizes human, rat and mouse neuroglobin by immunohistochemistry. Staining of neuroglobin in tissues using immunohistochemistry is specifically inhibited with the immunizing peptide.

Neuroglobin is an oxygen-binding heme protein predominantly expressed in the nervous system in man and other vertebrates. Neuroglobin belongs to the globin superfamily. It displays the typical globin fold, but it shares little amino acid sequence similarity with vertebrate hemoglobins and myoglobins. Neuroglobin is highly conserved among vertebrates and is evolutionary related to the invertebrate nerve globins.[1,2] Neuroglobin may play an essential role in oxygen homeostasis of neuronal cells. Neuroglobin is thought to protect neurons from hypoxic-ischemic injury as suggested by its increased expression under hypoxic conditions *in vitro* as well as in focal cerebral ischemia *in vivo*.[3,4] Neuronal survival after hypoxia decreased when neuroglobin expression is inhibited by antisense oligonucleotide and enhanced by neuroglobin overexpression.[4] In mouse and rat, neuroglobin is preferentially expressed in neuronal cells of the central and peripheral nervous systems, but also in some endocrine tissues. Neuroglobin is highly expressed in neurons of mammalian retina. Its distribution correlates with the subcellular localization of mitochondria and with oxygen demands, possibly linking neuroglobin to cellular respiration.[5]

Reagent

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

Antibody concentration: ~ 1.2 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 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 dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunohistochemistry:
A working concentration of 2.5-5.0 µg/ml is recommended using biotin/ExtrAvidin®-Peroxidase staining of heat-retrieved formalin-fixed, paraffin-embedded rat brain sections.
A working concentration of 5-10 µg/ml is recommended using biotin/ExtrAvidin-Peroxidase staining of heat-retrieved formalin-fixed, paraffin-embedded human and mouse brain sections.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. Burmester, T., et al., *Nature*, **407**, 520-523 (2000).
2. Burmester, T. and Hankeln, T., *News. Physiol. Sci*, **19**, 110-113 (2004).
3. Pesce, A., et al., *EMBO Rep.*, **3**, 1146-1151 (2002).
4. Sun, Y., et al., *Proc. Natl. Acad. Sci. USA*, **98**, 15306-15311 (2001).
5. Bentmann, A., et al., *J. Biol. Chem.*, **280**, 20660-20665 (2005)

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