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NGB Rabbit pAb

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Catalog # AP94507

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9ER97
Reactivity	Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	17037
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from mouse NGB
Epitope Specificity	51-151/151
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Perikaryon.
SIMILARITY	Belongs to the globin family.
SUBUNIT	Monomer. Homodimer and homotetramer; disulfide-linked.
Post-translational modifications	A redox disulfide bond regulates the heme pocket coordination and the rate of nitrite reduction to NO. Phosphorylated in vitro by ERK1, ERK2 and PKA, and in vivo during hypoxia. Phosphorylation increases nitrite reductase activity.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes an oxygen-binding protein that is distantly related to members of the globin gene family. It is highly conserved among other vertebrates. It is expressed in the central and peripheral nervous system where it may be involved in increasing oxygen availability and providing protection under hypoxic/ischemic conditions. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	64242
Other Names	Neuroglobin, Nitrite reductase, Ngb {ECO:0000312|MGI:MGI:2151886}
Target/Specificity	Predominantly expressed in brain, the strongest expression is seen in the frontal lobe, the subthalamic nucleus and the thalamus.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	Ngb {ECO:0000312|MGI:MGI:2151886}
Function	Monomeric globin with a bis-histidyl six-coordinate heme-iron atom through which it can bind dioxygen, carbon monoxide and nitric oxide (PubMed:11029004, PubMed:11473111, PubMed:11473128). Could help transport oxygen and increase its availability to the metabolically active neuronal tissues, though its low quantity in tissues as well as its high affinity for dioxygen, which may limit its oxygen-releasing ability, argue against it (PubMed:11029004, PubMed:11473128). The ferrous/deoxygenated form exhibits a nitrite reductase activity and it could produce nitric oxide which in turn inhibits cellular respiration in response to hypoxia. In its ferrous/deoxygenated state, it may also exhibit GDI (Guanine nucleotide Dissociation Inhibitor) activity toward heterotrimeric G-alpha proteins, thereby regulating signal transduction to facilitate neuroprotective responses in the wake of hypoxia and associated oxidative stress (By similarity).
Cellular Location	Cytoplasm, cytosol. Mitochondrion matrix. Note=Enriched in mitochondrial matrix upon oxygen-glucose deprivation
Tissue Location	Predominantly expressed in brain.

Background

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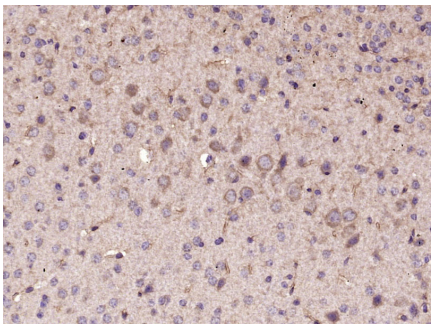
Images



Paraformaldehyde-fixed, paraffin embedded (Rat brain); Antigen retrieval by microwave in sodium citrate buffer (pH6.0) ; Block endogenous peroxidase by 3% hydrogen peroxide for 30 minutes; Blocking buffer (3% BSA) at RT for 30min; Antibody incubation with (NGB) Polyclonal Antibody, Unconjugated (AP94507) at 1:400 overnight at 4°C, followed by conjugation to the secondary antibody (labeled with HRP)and DAB staining.