

DP2017

Polyclonal Antibody to Neuroglobin - Aff - Purified

Alternate names:

NGB

Quantity:

50 µg

Concentration:

1.0 mg/ml (after reconstitution)

Background:

Neuroglobin, a 151 amino acid residue protein, mainly expressed in vertebrate brain and retina, is a recently identified member of the globin superfamily. Augmenting O₂ supply, neuroglobin promotes survival of neurons upon hypoxic injury, potentially limiting brain damage. Moreover, neuroglobin may be a novel oxidative stress-responsive sensor for signal transduction in the brain. Neuroglobin expression is increased by neuronal hypoxia in vitro and focal cerebral ischemia in vivo, and neuronal survival after hypoxia is reduced by inhibiting neuroglobin expression with an antisense oligodeoxynucleotide and enhanced by neuroglobin overexpression.

Uniprot ID:

[Q9NPG2](#)

NCBI:

[NP_067080.1](#)

GeneID:

[58157](#)

Host:

Chicken

Immunogen:

Recombinant human neuroglobin.

The Human Neuroglobin is created as a recombinant protein produced in E. coli. It is the 17 kDa protein containing 150 amino acid residues of the Human Neuroglobin and one extra AA, N-terminal methionin.

The amino acid sequence of the recombinant human neuroglobin is 100% homologous with the amino acid sequence of the human neuroglobin.

AA Sequence:

M
ERPEPELIRQSWRAVSRSPLEHGTVLFARLFALPEDLLPLFQYNCRQFSSPEDCLSSPEFLDHIRKVMLVID
AAVT
NVEDLSSLEEYLASLGRKHRAVGKLSFSTVGESLLYMLEKCLGPAFTPTRAAWSQLYGAVVQAMSRGWDG
E

Format:

State: Lyophilized purified IgG fraction

Purification: Immunoaffinity chromatography on a column with immobilized recombinant Human Neuroglobin

Buffer System: Azide Free, 0.05 M phosphate buffer, 0.1 M NaCl, pH 7.2

Preservatives: None

Reconstitution: Restore with 0.05 ml of deionized water and let the lyophilized pellet dissolve completely. Slight turbidity may occur after reconstitution, which does not affect activity of the antibody. In this case clarify the solution by centrifugation.

Applications:

Western Blot.

Immunohistochemistry.

ELISA (for determination of the titer): The titer of this antibody, measured by indirect ELISA, is >1:100,000 for antibody concentration 1 mg/ml, 25 ng of antigen are coated per well, and defined at a point of maximal decrease of the titration curve.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

This antibody recognizes Neuroglobin.

Species: Human, Dog, Rat.

Other species not tested.

Add. Information:

Quality Control Test

Indirect ELISA - to determine titer of the antibody.

SDS PAGE - to determine purity of the antibody.

Storage:

Store lyophilized at 2-8°C for 6 months or at -20°C long term.

After reconstitution store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C long term.

Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

General Readings:

1. Li RC, Lee SK, Pouranfar F, Brittian KR, Clair HB, Row BW, et al. Hypoxia differentially regulates the expression of neuroglobin and cytoglobin in rat brain. *Brain Res.* 2006 Jun 22;1096(1):173-9. Epub 2006 Jun 5. PubMed PMID: 16750520.
2. Ostojić J, Sakaguchi DS, de Lathouder Y, Hargrove MS, Trent JT, Kwon YH, et al. Neuroglobin and cytoglobin: oxygen-binding proteins in retinal neurons. *Invest Ophthalmol Vis Sci.* 2006 Mar;47(3):1016-23. PubMed PMID: 16505036.
3. Rajendram R, Rao NA. Neuroglobin in normal retina and retina from eyes with advanced glaucoma. *Br J Ophthalmol.* 2007 May;91(5):663-6. Epub 2006 Dec 6. PubMed PMID: 17151062.
4. Pesce A, Dewilde S, Nardini M, Moens L, Ascenzi P, Hankeln T, et al. Human brain neuroglobin structure reveals a distinct mode of controlling oxygen affinity. *Structure.* 2003 Sep;11(9):1087-95. PubMed PMID: 12962627.
5. Sun Y, Jin K, Mao XO, Zhu Y, Greenberg DA. Neuroglobin is up-regulated by and protects neurons from hypoxic-ischemic injury. *Proc Natl Acad Sci U S A.* 2001 Dec 18;98(26):15306-11. Epub 2001 Dec 11. PubMed PMID: 11742077.
6. Sun Y, Jin K, Peel A, Mao XO, Xie L, Greenberg DA. Neuroglobin protects the brain from experimental stroke in vivo. *Proc Natl Acad Sci U S A.* 2003 Mar 18;100(6):3497-500. Epub 2003 Mar 5. PubMed PMID: 12621155.
7. Mammen PP, Shelton JM, Goetsch SC, Williams SC, Richardson JA, Garry MG, et al. Neuroglobin, a novel member of the globin family, is expressed in focal regions of the brain. *J Histochem Cytochem.* 2002 Dec;50(12):1591-8. PubMed PMID: 12486081.
8. Garry DJ, Mammen PP. Neuroprotection and the role of neuroglobin.