

neuroglobin (h): 293 Lysate: sc-110715

BACKGROUND

Globins are a superfamily of gas-binding heme proteins that are present in bacteria, protists, fungi, plants and animals. Globins play evolutionarily divergent roles which include binding, transport, scavenging, detoxification and sensing of oxygen, nitric oxide and carbon monoxide. Neuroglobin (Ngb) is a hexacoordinate hemoglobin that is predominantly expressed in the vertebrate brain and may enhance oxygen supply to neural components. Neuroglobin displays a high affinity for oxygen and its presence in cerebral neurons suggests a role in neuronal responses to hypoxia or ischemia. For example, *in vitro* neuronal hypoxia causes an elevation in the levels of neuroglobin, which enhances neuronal cell survival. The human neuroglobin gene maps to chromosome 14q24.3 and encodes a 151 amino acid protein.

REFERENCES

1. Burmester, T., et al. 2000. A vertebrate globin expressed in the brain. *Nature* 407: 520-523.
2. Online Mendelian Inheritance in Man, OMIM[™]. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605304. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Trent, J.T., et al. 2001. Human neuroglobin, a hexacoordinate hemoglobin that reversibly binds oxygen. *J. Biol. Chem.* 276: 30106-30110.
4. Couture, M., et al. 2001. The heme environment of mouse neuroglobin. Evidence for the presence of two conformations of the heme pocket. *J. Biol. Chem.* 276: 36377-36382.
5. Dewilde, S., et al. 2001. Biochemical characterization and ligand binding properties of neuroglobin, a novel member of the globin family. *J. Biol. Chem.* 276: 38949-38955.
6. Zhang, C.G., et al. 2001. Coding region cDNA sequence cloning of rat neuroglobin gene, its polymorphism feature and tissue expression profile analysis. *Yi Chuan Xue Bao* 28: 997-1001.
7. Sun, Y., et al. 2001. Neuroglobin is upregulated by and protects neurons from hypoxic-ischemic injury. *Proc. Natl. Acad. Sci. USA* 98: 15306-15311.
8. Burmester, T., et al. 2002. Cytochrome: a novel globin type ubiquitously expressed in vertebrate tissues. *Mol. Biol. Evol.* 19: 416-421.
9. Zhang, C., et al. 2002. Full-length cDNA cloning of human neuroglobin and tissue expression of rat neuroglobin. *Biochem. Biophys. Res. Commun.* 290: 1411-1419.

CHROMOSOMAL LOCATION

Genetic locus: NGB (human) mapping to 14q24.3.

PRODUCT

neuroglobin (h): 293 Lysate represents a lysate of human neuroglobin transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

neuroglobin (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive neuroglobin antibodies. Recommended use: 10-20 µl per lane.

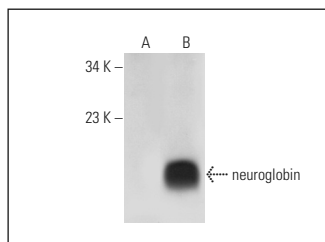
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

neuroglobin (G-11): sc-133086 is recommended as a positive control antibody for Western Blot analysis of enhanced human neuroglobin expression in neuroglobin transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



neuroglobin (G-11): sc-133086. Western blot analysis of neuroglobin expression in non-transfected: sc-110760 (A) and human neuroglobin transfected: sc-110715 (B) 293 whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.