neuroglobin (h): 293T Lysate: sc-170201



The Power to Question

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

- Burmester, T., et al. 2000. A vertebrate globin expressed in the brain. Nature 407: 520-523.
- 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/
- Sun, Y., et al. 2001. Neuroglobin is upregulated by and protects neurons from hypoxic-ischemic injury. Proc. Natl. Acad. Sci. USA 98: 15306-15311.
- Trent, J.T., III, et al. 2001. Human neuroglobin, a hexacoordinate hemoglobin that reversibly binds oxygen. J. Biol. Chem. 276: 30106-30110.
- 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.
- 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.
- 7. 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.
- 8. Burmester, T., et al. 2002. Cytoglobin: a novel globin type ubiquitously expressed in vertebrate tissues. Mol. Biol. Evol. 19: 416-421.
- 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): 293T Lysate represents a lysate of human neuroglobin transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

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.

APPLICATIONS

neuroglobin (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive neuroglobin antibodies. Recommended use: $10\text{-}20~\mu l$ per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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

PROTOCOLS

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

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com