SANTA CRUZ BIOTECHNOLOGY, INC.

cytoglobin (m): 293T Lysate: sc-125209

BACKGROUND

Hemoglobin, myoglobin, neuroglobin, and cytoglobin belong to the globin family, porphyrin-containing proteins that function in oxygen transport and storage. Myoglobin contributes to intracellular oxygen storage and transcellular facilitated diffusion of oxygen in skeletal and cardiac muscle. Neuroglobin is an oxidative stress-responsive sensor for signal transduction in the brain. Hemoglobin contributes to oxygen storage and diffusion of oxygen in blood tissue. Cytoglobin (also designated histoglobin or STAP), is a ubiquitous protein that facilitates diffusion of oxygen through tissues and acts as a scavenger for nitric oxide or other reactive oxygen species. It binds O_2 via its heme and also has a protective function during oxidative stress. Cytoglobin, a hexacoordinate hemoglobin, shares less than 30% identity with other human hemoglobins and is widely expressed in a wide array of tissues including fibroblasts and nerve cell populations.

REFERENCES

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4. Weiland, T.R., et al. 2004. Bis-histidyl hexacoordination in hemoglobins facilitates heme reduction kinetics. J. Am. Chem. Soc.126: 11930-11935.
5. Tateaki, Y., et al. 2004. Typing of hepatic nonparenchymal cells using Fibulin-2 and cytoglobin/STAP as liver fibrogenesis-related markers. Histochem. Cell. Biol. 122: 41-49.
6. Fordel, E., et al. 2004. Cytoglobin expression is upregulated in all tissues upon hypoxia: an *in vitro* and *in vivo* study by quantitative real-time PCR. Biochem. Biophys. Res. Commun. 319: 342-348.
7. Sugimoto, H., et al. 2004. Structural basis of human cytoglobin for ligand binding. J. Mol. Biol. 339: 873-885.
8. Lang, P., et al. 2004. Antiviral activity against CMV-infected fibroblasts in pediatric patients transplanted with $CD34^+$-selected allografts from alternative donors. Hum. Immunol. 65: 423-431.
9. de Sanctis, D., et al. 2004. Mapping protein matrix cavities in human cytoglobin through Xe atom binding. Biochem. Biophys. Res. Commun. 316: 1217-1221.

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.

CHROMOSOMAL LOCATION

Genetic locus: Cygb (mouse) mapping to 11 E2.

PRODUCT

cytoglobin (m): 293T Lysate represents a lysate of mouse cytoglobin transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

cytoglobin (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive cytoglobin antibodies. Recommended use: 10-20 µl 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.