



Rhodanese (h): 293 Lysate: sc-129651

BACKGROUND

Rhodanese (also known as thiosulfate sulfurtransferase) is a mitochondrial matrix enzyme that is encoded by the nucleus. Rhodanese is a 297-residue polypeptide and has been proposed to play roles in cyanide detoxification, the formation of iron-sulfur proteins, and the modification of sulfur-containing enzymes. Rhodanese was first identified in human red cells in 1956 and has been crystallized from beef liver. In mammals, most cyanide is converted to thiocyanate by Rhodanese. There is an association between Leber's optic neuropathy and deficiency of Rhodanese activity in liver and rectal mucosa. Greatly reduced activity of this enzyme has been observed in the livers of two males with Leber optic atrophy from a well-studied Swiss family with five symptomatic persons in four generations. The red cell and tissue Rhodanese are determined by separate genes, but more than one locus may be concerned with the synthesis of heterogeneous tissue isozymes. The gene which encodes rhodanese maps to human chromosome 22q12.3.

REFERENCES

1. Cagianut, B., et al. 1981. Thiosulphate-sulphur transferase (Rhodanese) deficiency in Leber's hereditary optic atrophy. *Lancet* 2: 981-982.
2. Pallini, R., et al. 1990. Synthesis of Rhodanese in Hep 3B cells. *Mol. Cell. Biochem.* 93: 61-67.
3. Pallini, R., et al. 1991. Cloning and sequence analysis of the human liver Rhodanese: comparison with the bovine and chicken enzymes. *Biochem. Biophys. Res. Commun.* 180: 887-893.
4. Aita, N., et al. 1997. Cloning and expression of human liver Rhodanese cDNA. *Biochem. Biophys. Res. Commun.* 231: 56-60.
5. Tan, G., et al. 2003. Decreased expression of genes involved in sulfur amino acid metabolism in frataxin-deficient cells. *Hum. Mol. Genet.* 12: 1699-1711.
6. Horibe, T., et al. 2004. Different contributions of the three CXXC motifs of human protein-disulfide isomerase-related protein to isomerase activity and oxidative refolding. *J. Biol. Chem.* 279: 4604-4611.
7. Kim, M.V., et al. 2004. Some properties of human small heat shock protein HSP 22 (H11 or HspB8). *Biochem. Biophys. Res. Commun.* 315: 796-801.
8. Matthies, A., et al. 2004. Evidence for the physiological role of a rhodanese-like protein for the biosynthesis of the molybdenum cofactor in humans. *Proc. Natl. Acad. Sci. USA* 101: 5946-5951.

CHROMOSOMAL LOCATION

Genetic locus: TST (human) mapping to 22q12.3.

PRODUCT

Rhodanese (h): 293 Lysate represents a lysate of human Rhodanese transfected 293 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

Rhodanese (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive Rhodanese 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.

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.