

Rhodanese (G-7): sc-271883

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

- Cagianut, B., et al. 1981. Thiosulphate-sulphur transferase (Rhodanese) deficiency in Leber's hereditary optic atrophy. *Lancet* 2: 981-982.
- Pallini, R., et al. 1990. Synthesis of Rhodanese in Hep 3B cells. *Mol. Cell. Biochem.* 93: 61-67.
- 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.
- Aita, N., et al. 1997. Cloning and expression of human liver Rhodanese cDNA. *Biochem. Biophys. Res. Commun.* 231: 56-60.

CHROMOSOMAL LOCATION

Genetic locus: TST (human) mapping to 22q12.3; Tst (mouse) mapping to 15 E1.

SOURCE

Rhodanese (G-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 37-65 near the N-terminus of Rhodanese of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rhodanese (G-7) is available conjugated to agarose (sc-271883 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271883 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271883 PE), fluorescein (sc-271883 FITC), Alexa Fluor® 488 (sc-271883 AF488), Alexa Fluor® 546 (sc-271883 AF546), Alexa Fluor® 594 (sc-271883 AF594) or Alexa Fluor® 647 (sc-271883 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271883 AF680) or Alexa Fluor® 790 (sc-271883 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271883 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Rhodanese (G-7) is recommended for detection of Rhodanese of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Rhodanese (G-7) is also recommended for detection of Rhodanese in additional species, including canine.

Suitable for use as control antibody for Rhodanese siRNA (h): sc-36418, Rhodanese siRNA (m): sc-36419, Rhodanese shRNA Plasmid (h): sc-36418-SH, Rhodanese shRNA Plasmid (m): sc-36419-SH, Rhodanese shRNA (h) Lentiviral Particles: sc-36418-V and Rhodanese shRNA (m) Lentiviral Particles: sc-36419-V.

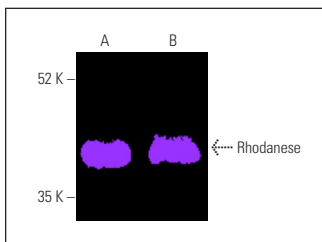
Molecular Weight of Rhodanese: 33-35 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, mouse liver extract: sc-2256 or rat liver extract: sc-2395.

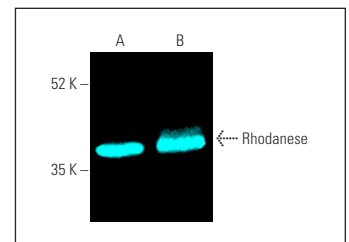
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Rhodanese (G-7): sc-271883. Fluorescent western blot analysis of Rhodanese expression in mouse liver (A) and rat liver (B) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG Fc BP-CFL 555: sc-533654.



Rhodanese (G-7): sc-271883. Fluorescent western blot analysis of Rhodanese expression in mouse liver (A) and rat liver (B) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG Fc BP-CFL 647: sc-533656.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA