SANTA CRUZ BIOTECHNOLOGY, INC.

Galactose Mutarotase (H-162): sc-292607

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Galactose Mutarotase is a member of the aldose epimerase family and is involved in hexose metabolism. Through its catalytic activity, Galactose Mutarotase converts β-aldose to α-aldose on several sugars, including D-glucose, L-arabinose and D-xylose. Found in the cytoplasm of most cells, Galactose Mutarotase plays a key role in galactose metabolism by catalyzing the conversion of β-D-galactose to α-D-galactose. The enzyme contains two residues, Glu 304 and His 170, that are critical for catalysis, as well as His 96 and Asp 243, which are important for proper substrate recognition by the active site. No known diseases have been associated with mutations in the Galactose Mutarotase gene, although inhibition of Galactose Mutarotase activity could potentially be associated with a build-up of unmetabolized sugars during metabolism.

REFERENCES

1. Beebe, J.A. and Frey, P.A. 1998. Galactose Mutarotase: purification, characterization, and investigations of two important histidine residues. Biochemistry 37: 14989-14997.
2. Beebe, J.A., et al. 2003. Galactose Mutarotase: pH dependence of enzymatic mutarotation. Biochemistry 42: 4414-4420.
3. Thoden, J.B., et al. 2003. The catalytic mechanism of Galactose Mutarotase. Protein Sci. 12: 1051-1059.
4. Thoden, J.B., et al. 2004. Molecular structure of human Galactose Mutarotase. J. Biol. Chem. 279: 23431-23437.
5. Kim, I., et al. 2004. Ribose utilization with an excess of mutarotase causes cell death due to accumulation of methylglyoxal. J. Bacteriol. 186: 7229-7235.
6. Thoden, J.B. and Holden, H.M. 2005. The molecular architecture of Galactose Mutarotase/UDP-galactose 4-epimerase from *Saccharomyces cerevisiae*. J. Biol. Chem. 280: 21900-21907.

CHROMOSOMAL LOCATION

Genetic locus: GALM (human) mapping to 2p22.1; Galm (mouse) mapping to 17 E3.

SOURCE

Galactose Mutarotase (H-162) is a rabbit polyclonal antibody raised against amino acids 181-342 mapping at the C-terminus of Galactose Mutarotase of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Galactose Mutarotase (H-162) is recommended for detection of Galactose Mutarotase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

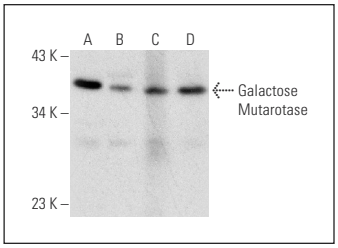
Galactose Mutarotase (H-162) is also recommended for detection of Galactose Mutarotase in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Galactose Mutarotase siRNA (h): sc-72266, Galactose Mutarotase siRNA (m): sc-72267, Galactose Mutarotase shRNA Plasmid (h): sc-72266-SH, Galactose Mutarotase shRNA Plasmid (m): sc-72267-SH, Galactose Mutarotase shRNA (h) Lentiviral Particles: sc-72266-V and Galactose Mutarotase shRNA (m) Lentiviral Particles: sc-72267-V.

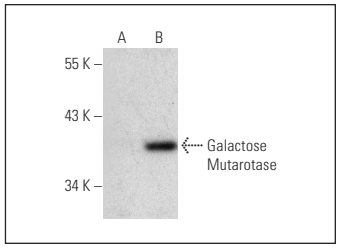
Molecular Weight of Galactose Mutarotase: 42 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, rat kidney extract: sc-2394 or Galactose Mutarotase (m): 293T Lysate: sc-120388.

DATA



Galactose Mutarotase (H-162): sc-292607. Western blot analysis of Galactose Mutarotase expression in Hep G2 (**A**) and RT-4 (**B**) whole cell lysates and rat kidney (**C**) and human liver (**D**) tissue extracts.



Galactose Mutarotase (H-162): sc-292607. Western blot analysis of Galactose Mutarotase expression in non-transfected: sc-117752 (**A**) and mouse Galactose Mutarotase transfected: sc-120388 (**B**) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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