SANTA CRUZ BIOTECHNOLOGY, INC.

Mpi (D-15): sc-161875

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Mpi (mannose phosphate isomerase), also known as PMI (phosphomannose isomerase) or PMI1, is a 423 amino acid zinc metalloenzyme belonging to the mannose-6-phosphate isomerase type 1 family, and is expressed in all tissues, more abundantly in heart, brain and skeletal muscle. A steady supply of D-mannose derivatives, which are required for most glycosylation reactions, is maintained by Mpi. Localized to the cytoplasm, Mpi utilizes zinc as a cofactor and catalyzes the interconversion of fructose-6-phosphate and mannose-6-phosphate. Mutations in the gene encoding Mpi lead to congenital disorder of glycosylation type 1B (CDG1B), also designated carbohydrate-deficient glycoprotein syndrome type Ib (CDGS1B), which is characterized by protein-losing enteropathy. Congenital disorders of glycosylation are metabolic deficiencies in glycoprotein biosynthesis that usually results in severe mental and psychomotor retardation.

REFERENCES

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2. Jaeken, J., et al. 1998. Phosphomannose isomerase deficiency: a carbohydrate-deficient glycoprotein syndrome with hepatic-intestinal presentation. Am. J. Hum. Genet. 62: 1535-1539.
3. Niehues, R., et al. 1998. Carbohydrate-deficient glycoprotein syndrome type Ib. Phosphomannose isomerase deficiency and mannose therapy. J. Clin. Invest. 101: 1414-1420.
4. Schollen, E., et al. 2000. Genomic organization of the human phosphomannose isomerase (MPI) gene and mutation analysis in patients with congenital disorders of glycosylation type Ib (CDG-Ib). Hum. Mutat. 16: 247-252.
5. de Lonlay, P., et al. 2001. A broad spectrum of clinical presentations in congenital disorders of glycosylation I: a series of 26 cases. J. Med. Genet. 38: 14-19.
6. Schollen, E., et al. 2002. DHPLC analysis as a platform for molecular diagnosis of congenital disorders of glycosylation (CDG). Eur. J. Hum. Genet. 10: 643-648.
7. Vuillaumier-Barrot, S., et al. 2002. Protein losing enteropathy-hepatic fibrosis syndrome in Saguenay-Lac St-Jean, Quebec is a congenital disorder of glycosylation type Ib. J. Med. Genet. 39: 849-851.

CHROMOSOMAL LOCATION

Genetic locus: MPI (human) mapping to 15q24.1; Mpi (mouse) mapping to 9 B.

SOURCE

Mpi (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Mpi of human origin.

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-161875 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Mpi (D-15) is recommended for detection of Mpi 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).

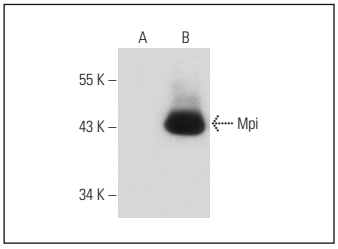
Mpi (D-15) is also recommended for detection of Mpi in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for Mpi siRNA (h): sc-90211, Mpi siRNA (m): sc-149531, Mpi shRNA Plasmid (h): sc-90211-SH, Mpi shRNA Plasmid (m): sc-149531-SH, Mpi shRNA (h) Lentiviral Particles: sc-90211-V and Mpi shRNA (m) Lentiviral Particles: sc-149531-V.

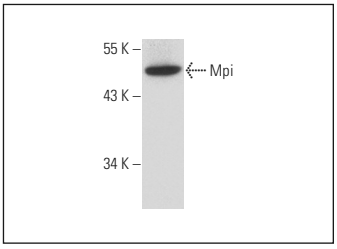
Molecular Weight of Mpi: 47 kDa.

Positive Controls: Mpi (m2): 293T Lysate: sc-110296 or rat brain extract: sc-2392.

DATA



Mpi (D-15): sc-161875. Western blot analysis of Mpi expression in non-transfected: sc-117752 (**A**) and mouse Mpi transfected: sc-110296 (**B**) 293T whole cell lysates.



Mpi (D-15): sc-161875. Western blot analysis of Mpi expression in rat brain tissue extract.

STORAGE

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

PROTOCOLS

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

MONOS Satisfaction Guaranteed

Try **Mpi (B-2): sc-393484** or **Mpi (E-4): sc-393477**, our highly recommended monoclonal alternatives to Mpi (D-15).