SANTA CRUZ BIOTECHNOLOGY, INC.

GMD (C-7): sc-515226

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GMD (GDP-D-mannose dehydratase), also known as GMDS (GDP-mannose 4,6-dehydratase) or SDR3E1, is a 372 amino acid protein that utilizes NADP as a cofactor to catalyze the conversion of GDP-mannose to GDP-4-keto-6-deoxymannose. GMD mutations are involved in resistance to TRAIL (tumor necrosis factor-related apoptosis-inducing ligand)-induced apoptosis. The gene encoding GMD maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

1. Brunner, H.G., et al. 1994. A Stickler syndrome gene is linked to chromosome 6 near the COL11A2 gene. Hum. Mol. Genet. 3: 1561-1564.
2. Sullivan, F.X., et al. 1998. Molecular cloning of human GDP-mannose 4,6-dehydratase and reconstitution of GDP-fucose biosynthesis *in vitro*. J. Biol. Chem. 273: 8193-8202.
3. Ohyama, C., et al. 1998. Molecular cloning and expression of GDP-D-mannose-4,6-dehydratase, a key enzyme for fucose metabolism defective in Lec13 cells. J. Biol. Chem. 273: 14582-14587.
4. Eshel, R., et al. 2001. The FX enzyme is a functional component of lymphocyte activation. Cell. Immunol. 213: 141-148.
5. Bläker, H., et al. 2008. Recurrent deletions at 6q in early age of onset non-HNPCC- and non-FAP-associated intestinal carcinomas. Evidence for a novel cancer susceptibility locus at 6q14-q22. Genes Chromosomes Cancer 47: 159-164.

CHROMOSOMAL LOCATION

Genetic locus: GMDS (human) mapping to 6p25.3; Gmds (mouse) mapping to 13 A3.2.

SOURCE

GMD (C-7) is a mouse monoclonal antibody raised against amino acids 61-359 mapping within an internal region of GMD of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GMD (C-7) is available conjugated to agarose (sc-515226 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515226 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515226 PE), fluorescein (sc-515226 FITC), Alexa Fluor® 488 (sc-515226 AF488), Alexa Fluor® 546 (sc-515226 AF546), Alexa Fluor® 594 (sc-515226 AF594) or Alexa Fluor® 647 (sc-515226 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515226 AF680) or Alexa Fluor® 790 (sc-515226 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

GMD (C-7) is recommended for detection of GMD 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).

Suitable for use as control antibody for GMD siRNA (h): sc-95594, GMD siRNA (m): sc-145644, GMD shRNA Plasmid (h): sc-95594-SH, GMD shRNA Plasmid (m): sc-145644-SH, GMD shRNA (h) Lentiviral Particles: sc-95594-V and GMD shRNA (m) Lentiviral Particles: sc-145644-V.

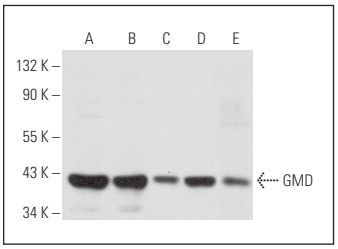
Molecular Weight of GMD: 42 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

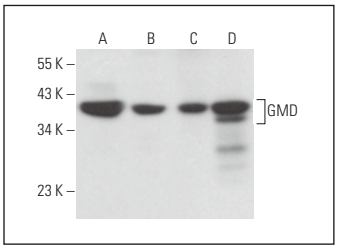
RECOMMENDED SUPPORT REAGENTS

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



GMD (C-7): sc-515226. Western blot analysis of GMD expression in A-431 (**A**), Hep G2 (**B**), NCI-H1299 (**C**) and HeLa (**D**) whole cell lysates and human colon tissue extract (**E**).



GMD (C-7): sc-515226. Western blot analysis of GMD expression in COLO 205 (**A**) and SW480 (**B**) whole cell lysates and human salivary gland (**C**) and rat small intestine (**D**) tissue extracts.

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.