SANTA CRUZ BIOTECHNOLOGY, INC.

GM2-AP (E-7): sc-514437



BACKGROUND

GM2-AP (GM2 ganglioside activator), also known as GM2A or SAP-3 (shingolipid activator protein 3), is a 193 amino acid protein that localizes to the lysosome. Existing as a small glycolipid transport protein, GM2-AP acts as a ganglioside-specific cofactor that, together with β -hexosaminidase A (HEXA), stimulates the breakdown of glycolipid GA2 and ganglioside GM2 and is important for the degradation of proteins containing terminal N-acetyl hexosamines. Mutations in the gene encoding GM2-AP are the cause of GM2gangliosidosis type AB (GM2GAB), which is also known as Tay-Sachs disease AB variant, and is an autosomal recessive disease that is characterized by ganglioside GM2 accumulation in the presence of both hexosaminidase A and B.

REFERENCES

- 1. Schröder, M., et al. 1989. Isolation of a cDNA encoding the human GM2 activator protein. FEBS Lett. 251: 197-200.
- 2. Xie, B., et al. 1991. Isolation and expression of a full-length cDNA encoding the human GM2 activator protein. Biochem. Biophys. Res. Commun. 177: 1217-1223.
- 3. Klima, H., et al. 1991. Characterization of full-length cDNAs and the gene coding for the human GM2 activator protein. FEBS Lett. 289: 260-264.
- Schröder, M., et al. 1991. A mutation in the gene of a glycolipid-binding protein (GM2 activator) that causes GM2-gangliosidosis variant AB. FEBS Lett. 290: 1-3.
- Nagarajan, S., et al. 1992. Evidence for two cDNA clones encoding human GM2-activator protein. Biochem. J. 282: 807-813.
- Xie, B., et al. 1992. Identification of a processed pseudogene related to the functional gene encoding the GM2 activator protein: localization of the pseudogene to human chromosome 3 and the functional gene to human chromosome 5. Genomics 14: 796-798.

CHROMOSOMAL LOCATION

Genetic locus: GM2A (human) mapping to 5q33.1.

SOURCE

GM2-AP (E-7) is a mouse monoclonal antibody raised against amino acids 1-193 representing full length GM2-AP of human origin.

PRODUCT

Each vial contains 200 μg lgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GM2-AP (E-7) is available conjugated to agarose (sc-514437 AC), 500 μg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514437 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514437 PE), fluorescein (sc-514437 FITC), Alexa Fluor[®] 488 (sc-514437 AF488), Alexa Fluor[®] 546 (sc-514437 AF546), Alexa Fluor[®] 594 (sc-514437 AF594) or Alexa Fluor[®] 647 (sc-514437 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514437 AF680) or Alexa Fluor[®] 790 (sc-514437 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

GM2-AP (E-7) is recommended for detection of GM2-AP of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 GM2-AP siRNA (h): sc-62385, GM2-AP shRNA Plasmid (h): sc-62385-SH and GM2-AP shRNA (h) Lentiviral Particles: sc-62385-V.

Molecular Weight of GM2-AP: 21 kDa.

Positive Controls: JAR cell lysate: sc-2276.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG κ BP-HRP: sc-516102 or m-lgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM 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-lgG κ BP-FITC: sc-516140 or m-lgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.



GM2-AP (E-7): sc-514437. Western blot analysis of GM2-AP expression in JAR whole cell lysate.

SELECT PRODUCT CITATIONS

 Bedia, C., et al. 2019. GM2-GM3 gangliosides ratio is dependent on GRP94 through down-regulation of GM2-AP cofactor in brain metastasis cells. Sci. Rep. 9: 14241.

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