SANTA CRUZ BIOTECHNOLOGY, INC.

β-dystroglycan (56): sc-135891

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Dystroglycan (DG) is a cell surface receptor for several extracellular matrix molecules including laminins, Agrin and Perlecan. Dystroglycan function is required for the formation of basement membranes in early development and the organization of laminin on the cell surface. α-dystroglycan is a membrane-associated, extracellular glycoprotein that is anchored to the cell-membrane by binding to the transmembrane glycoprotein β-dystroglycan to form an α/β-dystroglycan-complex. Additionally, dystroglycan is part of a multimolecular complex, where it associates with dystrophin, at the sarcolemma, to form the dystrophin-associated protein complex or with utrophin, at the neuromuscular junction, to form the utrophin-associated protein complex. Dystroglycan is also thought to participate in the clustering of nicotinic acetylcholine receptors at the neuromuscular junction.

REFERENCES

1. Henry, M.D., Satz, J.S., Brakebusch, C., Costell, M., Gustafsson, E., Fassler, R. and Campbell, K.P. 2001. Distinct roles for dystroglycan, β1 Integrin and perlecan in cell surface laminin organization. J. Cell Sci. 114: 1137-1144.
2. Seifert, J., Ogawa, T., Kurono, S. and Ito, Y. 2000. Syntheses of α-dystroglycan derived glycosyl amino acids carrying a novel mannosyl serine/threonine linkage. Glycoconj. J. 17: 407-423.
3. Masaki, T., Matsumura, K., Hirata, A., Yamada, H., Hase, A., Shimizu, T., Yorifuji, H., Motoyoshi, K. and Kamakura, K. 2001. Expression of dystroglycan complex in satellite cells of dorsal root ganglia. Acta Neuropathol. 101: 174-178.
4. Marchand, S., Stetzkowski-Marden, F. and Cartaud, J. 2001. Differential targeting of components of the dystrophin complex to the postsynaptic membrane. Eur. J. Neurosci. 13: 221-229.
5. Cote, P.D., Moukhles, H., Lindenbaum, M. and Carbonetto, S. 1999. Chimaeric mice deficient in dystroglycans develop muscular dystrophy and have disrupted myoneural synapses. Nat. Genet. 23: 338-342.

CHROMOSOMAL LOCATION

Genetic locus: DAG1 (human) mapping to 3p21.31.

SOURCE

β-dystroglycan (56) is a mouse monoclonal antibody raised against amino acids 655-767 of β-dystroglycan of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2a} in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

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. Not for resale.

APPLICATIONS

β-dystroglycan (56) is recommended for detection of β-dystroglycan of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

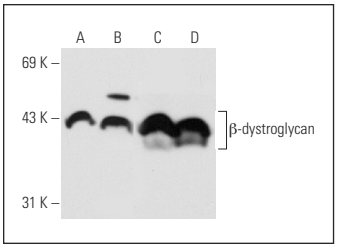
Suitable for use as control antibody for α/β-dystroglycan siRNA (h): sc-43488, α/β-dystroglycan shRNA Plasmid (h): sc-43488-SH and α/β-dystroglycan shRNA (h) Lentiviral Particles: sc-43488-V.

Molecular Weight of β-dystroglycan precursor: 97 kDa.

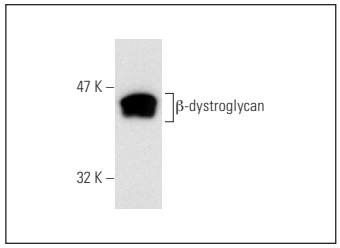
Molecular Weight of mature β-dystroglycan: 43 kDa.

Positive Controls: JAR cell lysate: sc-2276, JEG-3 whole cell lysate: sc-364255 or ARPE-19 whole cell lysate: sc-364357.

DATA



β-dystroglycan (56): sc-135891. Western blot analysis of β-dystroglycan expression in NCI-H929 (**A**), ARPE-19 (**B**), SKBR-3 (**C**) and JEG-3 (**D**) whole cell lysates.



β-dystroglycan (56): sc-135891. Western blot analysis of β-dystroglycan expression in JAR whole cell lysate.

PROTOCOLS

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

CONJUGATES

See **β-dystroglycan (4F7): sc-33702** for β-dystroglycan antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.