

β -dystroglycan (K-13): sc-30403

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. 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.
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. 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.
4. Henry, M.D., Satz, J.S., Brakebusch, C., Costell, M., Gustafsson, E., Fassler, R. and Campbell, K.P. 2001. Distinct roles for dystroglycan, β 1 integrin and Perlecan in cell surface laminin organization. *J. Cell Sci.* 114: 1137-1144.

CHROMOSOMAL LOCATION

Genetic locus: DAG1 (human) mapping to 3p21.31; Dag1 (mouse) mapping to 9 F2.

SOURCE

β -dystroglycan (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of dystroglycan precursor of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-30403 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

β -dystroglycan (K-13) is recommended for detection of β -dystroglycan of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

β -dystroglycan (K-13) is also recommended for detection of β -dystroglycan in additional species, including equine and porcine.

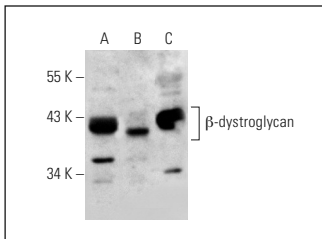
Suitable for use as control antibody for α/β -dystroglycan siRNA (h): sc-43488, α/β -dystroglycan siRNA (m): sc-43489, α/β -dystroglycan shRNA Plasmid (h): sc-43488-SH, α/β -dystroglycan shRNA Plasmid (m): sc-43489-SH, α/β -dystroglycan shRNA (h) Lentiviral Particles: sc-43488-V and α/β -dystroglycan shRNA (m) Lentiviral Particles: sc-43489-V.

Molecular Weight of β -dystroglycan precursor: 97 kDa.

Molecular Weight of mature β -dystroglycan: 43 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, L6 whole cell lysate: sc-364196 or SK-BR-3 cell lysate: sc-2218.

DATA



β -dystroglycan (K-13): sc-30403. Western blot analysis of β -dystroglycan expression in MCF7 (A), SK-BR-3 (B) and L6 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ganguly, K., Rejmak, E., Mikosz, M., Nikolaev, E., Knapska, E. and Kaczmarek, L. 2013. Matrix metalloproteinase (MMP) 9 transcription in mouse brain induced by fear learning. *J. Biol. Chem.* 288: 20978-20991.

PROTOCOLS

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


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Try **β -dystroglycan (A-9): sc-165999** or **β -dystroglycan (B-4): sc-165997**, our highly recommended monoclonal alternatives to β -dystroglycan (K-13).