

α -dystroglycan (D-3): sc-271589

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., et al. 1999. Chimaeric mice deficient in dystroglycans develop muscular dystrophy and have disrupted myoneural synapses. *Nat. Genet.* 23: 338-342.
2. Seifert, J., et al. 2000. Syntheses of α -dystroglycan derived glycosyl amino acids carrying a novel mannosyl serine/threonine linkage. *Glycoconj. J.* 17: 407-423.
3. Henry, M.D., et al. 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

α -dystroglycan (D-3) is a mouse monoclonal antibody raised against amino acids 30-329 mapping near the N-terminus of dystroglycan precursor of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

α -dystroglycan (D-3) is available conjugated to agarose (sc-271589 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271589 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271589 PE), fluorescein (sc-271589 FITC), Alexa Fluor[®] 488 (sc-271589 AF488), Alexa Fluor[®] 546 (sc-271589 AF546), Alexa Fluor[®] 594 (sc-271589 AF594) or Alexa Fluor[®] 647 (sc-271589 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271589 AF680) or Alexa Fluor[®] 790 (sc-271589 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

α -dystroglycan (D-3) is recommended for detection of α -dystroglycan of mouse, rat and 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 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 α -dystroglycan skeletal muscle: 156 kDa.

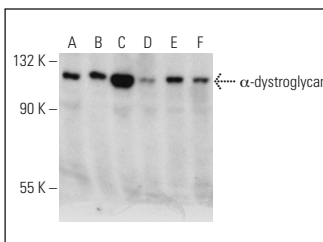
Molecular Weight of brain α -dystroglycan: 120 kDa.

Positive Controls: SK-BR-3 cell lysate: sc-2218, JEG-3 whole cell lysate: sc-364255 or A-10 cell lysate: sc-3806.

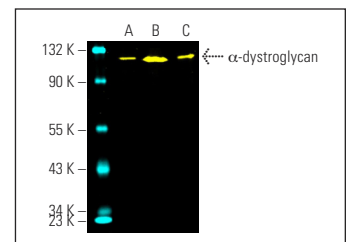
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG 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.

DATA



α -dystroglycan (D-3): sc-271589. Western blot analysis of α -dystroglycan expression in SK-BR-3 (A), JEG-3 (B), Neuro-2A (C), AMJZ-C8 (D), L6 (E) and A-10 (F) whole cell lysates.



α -dystroglycan (D-3) Alexa Fluor[®] 488: sc-271589 AF488. Direct fluorescent western blot analysis of α -dystroglycan expression in SK-BR-3 (A), Neuro-2A (B) and DU 145 (C) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Cruz Marker[™] Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor[®] 647: sc-516791.

SELECT PRODUCT CITATIONS

1. Pipperger, L., et al. 2021. Differential infection of murine and human dendritic cell subsets by oncolytic vesicular stomatitis virus variants. *Oncoimmunology* 10: 1959140.

RESEARCH USE

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