SANTA CRUZ BIOTECHNOLOGY, INC.

α-dystroglycan (IIH6C4): sc-73586

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.

CHROMOSOMAL LOCATION

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

SOURCE

α-dystroglycan (IIH6C4) is a mouse monoclonal antibody raised against purified dystrophin-glycoprotein complex of rabbit origin.

PRODUCT

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

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

α-dystroglycan (IIH6C4) is recommended for detection of α-dystroglycan of mouse, rat, human and rabbit 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)].

α-dystroglycan (IIH6C4) is also recommended for detection of α-dystroglycan in additional species, including canine.

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 skeletal muscle α-dystroglycan: 156 kDa.

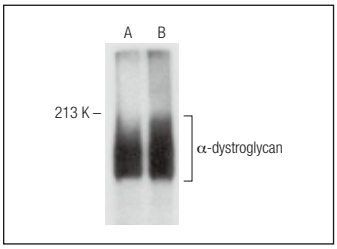
Molecular Weight of brain α-dystroglycan: 120 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml).

DATA



α-dystroglycan (IIH6C4): sc-73586. Western blot analysis of α-dystroglycan expression in mouse brain (**A**) and rat brain (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Labeau, A., et al. 2020. A genome-wide CRISPR-Cas9 screen identifies the dolichol-phosphate mannose synthase complex as a host dependency factor for dengue virus infection. J. Virol. 94: e01751-19.
2. Liu, Y., et al. 2020. Eyes shut homolog (EYS) interacts with matriglycan of O-mannosyl glycans whose deficiency results in EYS mislocalization and degeneration of photoreceptors. Sci. Rep. 10: 7795.
3. Liu, Y., et al. 2022. Deletion of POMT2 in zebrafish causes degeneration of photoreceptors. Int. J. Mol. Sci. 23: 14809.
4. Ma, K., et al. 2024. Saturation mutagenesis-reinforced functional assays for disease-related genes. Cell 187: 6707-6724.e22.

PROTOCOLS

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

CONJUGATES

See **α-dystroglycan (IIH6): sc-53987** for α-dystroglycan antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.