dystrophin (7A10): sc-47760

BACKGROUND

Dystrophin-glycoprotein complex (DGC) connects the F-Actin cytoskeleton on the inner surface of muscle fibers to the surrounding extracellular matrix, through the cell membrane interface. A deficiency in this protein contributes to Duchenne (DMD) and Becker (BMD) muscular dystrophies. The human dystrophin gene measures 2.4 megabases, has more than 80 exons, produces a 14 kb mRNA and contains at least 8 independent tissue-specific promoters and 2 poly A sites. The dystrophin mRNA can undergo differential splicing and produce a range of transcripts that encode a large set of proteins. Dystrophin represents approximately 0.002% of total striated muscle protein and localizes to triadic junctions in skeletal muscle, where it is thought to influence calcium ion homeostasis and force transmission.

CHROMOSOMAL LOCATION

Genetic locus: DMD [human] mapping to Xp21.2; Dmd [mouse] mapping to X B.

SOURCE

dystrophin (7A10) is a mouse monoclonal antibody raised against amino acids 3200-3684 of human recombinant dystrophin.

PRODUCT

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

dystrophin (7A10) is available conjugated to agarose (sc-47760 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-47760 HRP), 200 µg/ml, for WB, IHC/IP and ELISA; to either phycoerythrin (sc-47760 PE), fluorescein (sc-47760 FITC), Alexa Fluor® 488 (sc-47760 AF488), Alexa Fluor® 546 (sc-47760 AF546), Alexa Fluor® 594 (sc-47760 AF594) or Alexa Fluor® 647 (sc-47760 AF647), 200 µg/ml, for WB (RGB), IF, IHC/IP and FCM; and to either Alexa Fluor® 680 (sc-47760 AF680) or Alexa Fluor® 790 (sc-47760 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

dystrophin (7A10) is recommended for detection of an epitope corresponding to amino acids 3558-3684 of dystrophin of mouse, rat, human and fish origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for dystrophin siRNA (h): sc-35240, dystrophin siRNA (m): sc-35241, dystrophin shRNA Plasmid (h): sc-35240-SH, dystrophin shRNA Plasmid (m): sc-35241-SH, dystrophin shRNA (h) Lentiviral Particles: sc-35240-V and dystrophin shRNA (m) Lentiviral Particles: sc-35241-V.

Molecular Weight of dystrophin: 427 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810, A-10 cell lysate: sc-3806 or L8 cell lysate: sc-3807.

STORAGE

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

DATA

dystrophin (7A10) Alexa Fluor® 546; sc-47760 AF546. Direct fluorescent western blot analysis of dystrophin expression in rat skeletal muscle tissue extract. Blocked with UltraCruz® blocking reagent: sc-510214.

dystrophin (7A10); sc-47760. Immunoperoxidase staining of formalin fixed, paraffin-embedded rat skeletal muscle tissue showing membrane and cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

3. Niba, E.T.E., et al. 2021. Dystrophin Dp71 subisoforms localize to the cell membrane interface. A deficiency in this protein contributes to Duchenne (DMD) and Becker (BMD) muscular dystrophies. The human dystrophin gene measures 2.4 megabases, has more than 80 exons, produces a 14 kb mRNA and contains at least 8 independent tissue-specific promoters and 2 poly A sites. The dystrophin mRNA can undergo differential splicing and produce a range of transcripts that encode a large set of proteins. Dystrophin represents approximately 0.002% of total striated muscle protein and localizes to triadic junctions in skeletal muscle, where it is thought to influence calcium ion homeostasis and force transmission.

RESEARCH USE

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

PROTOCOLS

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