

DUX4 (C-2): sc-376490



The Power to Question

BACKGROUND

The double homeobox (DUX) proteins are encoded by 3.3-kilobase repeats found throughout the human genome. The DUX family includes DUX1, DUX2, DUX3, DUX4 and DUX5. Each of these family members, excluding DUX2, contains two homeobox domains. DUX2 contains only one homeobox domain. DUX1 and DUX5 are identical to one another and they share 98% identity with DUX3 and approximately 70% identity with DUX2. The genes encoding DUX5 and DUX3 both contain additional start sites that result in N-terminal extended isoforms. The homeodomains found in DUX5 and DUX1 are similar to those found in Pax-3, Pax-7, OTX1 and OTX2. DUX4, also known as DUX10, is capable of forming homodimers. In addition, the gene encoding DUX4 maps within the D4Z4 repeat unit that has been implicated in facioscapulohumeral muscular dystrophy (FSHD).

CHROMOSOMAL LOCATION

Genetic locus: DUX4 (human) mapping to 4q35.2.

SOURCE

DUX4 (C-2) is a mouse monoclonal antibody raised against amino acids 221-424 mapping near the C-terminus of DUX4 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-376490 X, 200 µg/0.1 ml.

DUX4 (C-2) is available conjugated to agarose (sc-376490 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376490 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376490 PE), fluorescein (sc-376490 FITC), Alexa Fluor® 488 (sc-376490 AF488), Alexa Fluor® 546 (sc-376490 AF546), Alexa Fluor® 594 (sc-376490 AF594) or Alexa Fluor® 647 (sc-376490 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376490 AF680) or Alexa Fluor® 790 (sc-376490 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

DUX4 (C-2) is recommended for detection of DUX4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

DUX4 (C-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of DUX4 monomer: 38 kDa.

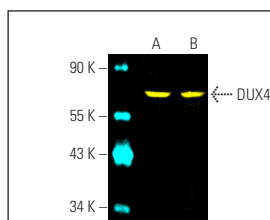
Molecular Weight of DUX4 homodimer: 75 kDa.

Positive Controls: AT3B-1 whole cell lysate: sc-364372, PC-3 cell lysate: sc-2220 or Jurkat whole cell lysate: sc-2204.

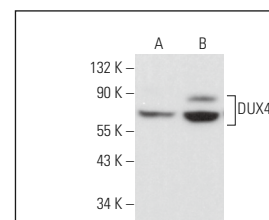
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



DUX4 (C-2) Alexa Fluor® 488: sc-376490 AF488. Direct fluorescent western blot analysis of DUX4 expression in Jurkat (A) and AT3B-1 (B) 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.



DUX4 (C-2): sc-376490. Western blot analysis of DUX4 expression in PC-3 (A) and Jurkat (B) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

- Xu, H., et al. 2014. DUX4 induces cell cycle arrest at G₁ phase through upregulation of p21 expression. *Biochem. Biophys. Res. Commun.* 446: 235-240.
- Bury, M., et al. 2019. NFE2L3 controls colon cancer cell growth through regulation of DUX4, a Cdk1 inhibitor. *Cell Rep.* 29: 1469-1481.e9.
- DeSimone, A.M., et al. 2019. Identification of the hyaluronic acid pathway as a therapeutic target for facioscapulohumeral muscular dystrophy. *Sci. Adv.* 5: eaaw7099.
- Zhang, F., et al. 2022. Excessive branched-chain amino acid accumulation restricts mesenchymal stem cell-based therapy efficacy in myocardial infarction. *Signal Transduct. Target. Ther.* 7: 171.
- Li, Z., et al. 2023. Transcription factor 12-mediated self-feedback regulatory mechanism is required in DUX4 fusion leukaemia. *Clin. Transl. Med.* 13: e1514.

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.