

# DUX2 (P-17): sc-323803

## 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).

## REFERENCES

1. Ding, H., Beckers, M.C., Plaisance, S., Marynen, P., Collen, D. and Belayew, A. 1998. Characterization of a double homeodomain protein (DUX1) encoded by a cDNA homologous to 3.3 kb dispersed repeated elements. *Hum. Mol. Genet.* 7: 1681-1694.
2. Beckers, M., Gabriëls, J., van der Maarel, S., De Vriese, A., Frants, R.R., Collen, D. and Belayew, A. 2001. Active genes in junk DNA? Characterization of DUX genes embedded within 3.3 kb repeated elements. *Gene* 264: 51-57.
3. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611444. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Ostlund, C., Garcia-Carrasquillo, R.M., Belayew, A. and Worman, H.J. 2005. Intracellular trafficking and dynamics of double homeodomain proteins. *Biochemistry* 44: 2378-2384.
5. Dixit, M., Anseau, E., Tassin, A., Winokur, S., Shi, R., Qian, H., Sauvage, S., Mattéotti, C., van Acker, A.M., Leo, O., Figlewicz, D., Barro, M., Laoudj-Chenivresse, D., Belayew, A., Coppée, F. and Chen, Y.W. 2007. DUX4, a candidate gene of facioscapulohumeral muscular dystrophy, encodes a transcriptional activator of PITX1. *Proc. Natl. Acad. Sci. USA* 104: 18157-18162.

## CHROMOSOMAL LOCATION

Genetic locus: DUX2 (human) mapping to 4q35.2.

## SOURCE

DUX2 (P-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of DUX2 of human origin.

## 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.

## PRODUCT

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

Blocking peptide available for competition studies, sc-323803 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-323803 X, 200 µg/0.1 ml.

## APPLICATIONS

DUX2 (P-17) is recommended for detection of DUX2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other DUX family members.

DUX2 (P-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of DUX2: 9 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.