SANTA CRUZ BIOTECHNOLOGY, INC.

DUX5 (U-20): sc-130045

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™. 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., Ansseau, E., Tassin, A., Winokur, S., Shi, R., Qian, H., Sauvage, S., Mattéotti, C., van Acker, A.M., Leo, O., Figlewicz, D., Barro, M., Laoudj-Chenivesse, 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: DUX5 (human).

SOURCE

DUX5 (U-20) is a purified rabbit polyclonal antibody raised against DUX5 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.

PROTOCOLS

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

PRODUCT

Each vial contains 100 µg of IgG in PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

DUX5 (U-20) is recommended for detection of DUX5 of human 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DUX5 siRNA (h): sc-106798, DUX5 shRNA Plasmid (h): sc-106798-SH and DUX5 shRNA (h) Lentiviral Particles: sc-106798-V.

Molecular Weight of DUX5: 22 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

RESEARCH USE

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