DYDC2 (K-13): sc-167690



The Power to Question

BACKGROUND

The Dumpy-30 (DPY-30) protein was first described in $\it C. elegans$, in which it is involved in dosage compensation of sex chromosomes. Conserved from yeast to humans, the DPY-30 family is involved in gene expression and chromatin modification, specifically histone methylation. DPY-30 and closely related proteins contain a short motif that is related to the dimerization motif in the regulatory subunit of protein kinase A (PKA), which consists of two α -helices that form a four-helix bundle during dimerization. As a member of the DPY-30 family, DYDC2 (DPY30 domain-containing protein 2) is a 177 amino acid protein that may inhibit MTF-1-dependent reporter gene expression. Knockdown of DYDC2 mRNA results in male sterility by impairing sperm motility.

REFERENCES

- Hsu, D.R. and Meyer, B.J. 1994. The DPY-30 gene encodes an essential component of the *Caenorhabditis elegans* dosage compensation machinery. Genetics 137: 999-1018.
- Hsu, D.R., Chuang, P.T. and Meyer, B.J. 1995. DPY-30, a nuclear protein essential early in embryogenesis for *Caenorhabditis elegans* dosage compensation. Development 121: 3323-3334.
- Lieb, J.D., de Solorzano, C.O., Rodriguez, E.G., Jones, A., Angelo, M., Lockett, S. and Meyer, B.J. 2000. The *Caenorhabditis elegans* dosage compensation machinery is recruited to X chromosome DNA attached to an autosome. Genetics 156: 1603-1621.
- Dong, X., Peng, Y., Peng, Y., Xu, F., He, X., Wang, F., Peng, X., Qiang, B., Yuan, J. and Rao, Z. 2005. Characterization and crystallization of human DPY-30-like protein, an essential component of dosage compensation complex. Biochim. Biophys. Acta 1753: 257-262.
- Vardanyan, A., Atanesyan, L., Egli, D., Raja, S.J., Steinmann-Zwicky, M., Renkawitz-Pohl, R., Georgiev, O. and Schaffner, W. 2008. Dumpy-30 family members as determinants of male fertility and interaction partners of metalresponsive transcription factor 1 (MTF-1) in *Drosophila*. BMC Dev. Biol. 8: 68
- Kuhl, A., Melberg, A., Meinl, E., Nürnberg, G., Nürnberg, P., Kehrer-Sawatzki, H. and Jenne, D.E. 2008. Myofibrillar myopathy with arrhythmogenic right ventricular cardiomyopathy 7: corroboration and narrowing of the critical region on 10q22.3. Eur. J. Hum. Genet. 16: 367-373.
- 7. Li, S., Qiao, Y., Di, Q., Le, X., Zhang, L., Zhang, X., Zhang, C., Cheng, J., Zong, S., Koide, S.S., Miao, S. and Wang, L. 2009. Interaction of SH3P13 and DYDC1 protein: a germ cell component that regulates acrosome biogenesis during spermiogenesis. Eur. J. Cell Biol. 88: 509-520.
- 8. Patel, A., Dharmarajan, V., Vought, V.E. and Cosgrove, M.S. 2009. On the mechanism of multiple lysine methylation by the human mixed lineage leukemia protein-1 (MLL1) core complex. J. Biol. Chem. 284: 24242-24256.

STORAGE

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

CHROMOSOMAL LOCATION

Genetic locus: DYDC2 (human) mapping to 10g23.1.

SOURCE

DYDC2 (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DYDC2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-167690 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DYDC2 (K-13) is recommended for detection of DYDC2 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 DYDC1.

Suitable for use as control antibody for DYDC2 siRNA (h): sc-90816, DYDC2 shRNA Plasmid (h): sc-90816-SH and DYDC2 shRNA (h) Lentiviral Particles: sc-90816-V.

Molecular Weight of DYDC2: 21 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat lgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat lgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat lgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat lgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 **Europe** +00800 4573 8000 49 6221 4503 0 **www.scbt.com**