

# DYDC2 (V-14): sc-167696

## BACKGROUND

The Dumpy-30 (DPY-30) protein was first described in *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  $\alpha$ -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 metal-responsive 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.
- 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.
- 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 (rat) mapping to 16p14.

## SOURCE

DYDC2 (V-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DYDC2 of rat origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-167696 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

DYDC2 (V-14) is recommended for detection of DYDC2 of rat 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.

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 IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-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 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™ 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](http://www.scbt.com) or our catalog for detailed protocols and support products.