

SMYD2 (Y-22): sc-130879

BACKGROUND

SMYD2 (SET and MYND domain containing 2), also known as KMT3C, HSKM-B or ZMYND14, is a 433 amino acid protein that contains one SET domain and one MYND-type zinc finger. Expressed at high levels in liver, heart, kidney, ovary and brain, SMYD2 functions as a lysine methyltransferase that, via methylation of p53, may play a role in repressing p53-mediated transcriptional regulation. The gene encoding SMYD2 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Brown, M.A., et al. 2006. Identification and characterization of SMYD2: a split SET/MYND domain-containing Histone H3 lysine 36-specific methyltransferase that interacts with the Sin3 histone deacetylase complex. *Mol. Cancer* 5: 26.
2. Huang, J., et al. 2006. Repression of p53 activity by SMYD2-mediated methylation. *Nature* 444: 629-632.
3. Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610663. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Sobral, R.A., et al. 2008. Tumor slices as a model to evaluate doxorubicin *in vitro* treatment and expression of trios of genes PRSS11, MTSS1, CLPTM1 and PRSS11, MTSS1, SMYD2 in canine mammary gland cancer. *Acta Vet. Scand.* 50: 27.
5. Peng, Y.B., et al. 2008. Mapping and expression analyses during porcine foetal muscle development of 12 genes involved in histone modifications. *Anim. Genet.* 40: 242-246.
6. Kawamura, S., et al. 2008. SMYD1 and SMYD2 are expressed in muscle tissue in *Xenopus laevis*. *Cytotechnology*. 57: 161-168.
7. Scoumanne, A. and Chen, X. 2008. Protein methylation: a new mechanism of p53 tumor suppressor regulation. *Histol. Histopathol.* 23: 1143-1149.

CHROMOSOMAL LOCATION

Genetic locus: SMYD2 (human) mapping to 1q41.

SOURCE

SMYD2 (Y-22) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of SMYD2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SMYD2 (Y-22) is recommended for detection of SMYD2 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 SMYD2 siRNA (h): sc-76529, SMYD2 shRNA Plasmid (h): sc-76529-SH and SMYD2 shRNA (h) Lentiviral Particles: sc-76529-V.

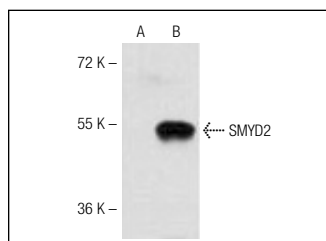
Molecular Weight of SMYD2: 50 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or human SMYD2 transfected 293 whole cell lysate.

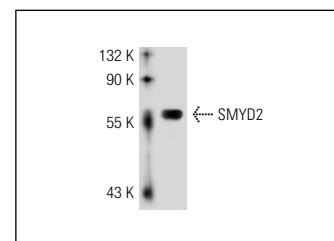
RECOMMENDED SECONDARY REAGENTS

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).

DATA



SMYD2 (Y-22): sc-130879. Western blot analysis of SMYD2 expression in non-transfected (A) and human SMYD2 transfected (B) 293 whole cell lysates.



SMYD2 (Y-22): sc-130879. Western blot analysis of SMYD2 expression in Hep G2 whole cell lysates.

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.



Try **SMYD2 (F-9): sc-393827**, our highly recommended monoclonal alternative to SMYD2 (Y-22).