

# JMJD1C (BA-09): sc-101073

## BACKGROUND

JMJD1C (Jumonji domain containing 1C), also known as TRIP8 (thyroid hormone receptor interacting protein 8), is a nuclear protein that belongs to the JHDM2 family of histone demethylases. Expressed in a wide variety of tissues, JMJD1C binds iron as a cofactor and contains one JMJC domain, a TRI8H1 domain with a C2HC4-type zinc finger-like motif and a TRI8H2 domain with a TR $\beta$  (thyroid hormone receptor  $\beta$ )-binding region. JMJD1C demethylates Lysine 9 of Histone H3, thereby playing a central role in the histone code and participating in nuclear hormone receptor-based transcriptional regulation. In addition, JMJD1C plays an important role in the regulation of cell growth during development and in chromatin regulation. Due to alternative splicing events, two isoforms exist for JMJD1C. One of these isoforms functions as a coactivator for the AR (androgen receptor).

## REFERENCES

1. Toyoda, M., et al. 2000. Jumonji is a nuclear protein that participates in the negative regulation of cell growth. *Biochem. Biophys. Res. Commun.* 274: 332-336.
2. Jung, J., et al. 2005. Roles of Jumonji in mouse embryonic development. *Dev. Dyn.* 232: 21-32.
3. Takeuchi, T., et al. 2006. Roles of Jumonji and Jumonji family genes in chromatin regulation and development. *Dev. Dyn.* 235: 2449-2459.

## CHROMOSOMAL LOCATION

Genetic locus: JMJD1C (human) mapping to 10q21.3.

## SOURCE

JMJD1C (BA-09) is a mouse monoclonal antibody raised against a partial recombinant protein mapping within amino acids 2-99 of JMJD1C of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

JMJD1C (BA-09) is recommended for detection of JMJD1C of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for JMJD1C siRNA (h): sc-75357, JMJD1C shRNA Plasmid (h): sc-75357-SH and JMJD1C shRNA (h) Lentiviral Particles: sc-75357-V.

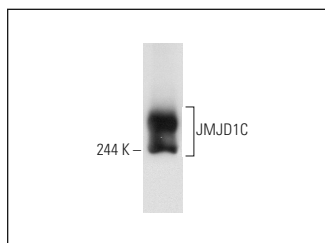
Molecular Weight of JMJD1C: 285 kDa.

Positive Controls: JAR cell lysate: sc-2276.

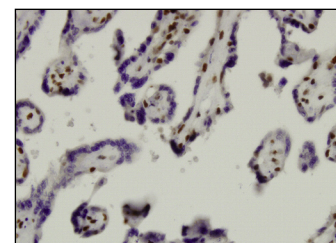
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



JMJD1C (BA-09): sc-101073. Western blot analysis of JMJD1C expression in JAR whole cell lysate.



JMJD1C (BA-09): sc-101073. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human placenta tissue showing nuclear localization.

## SELECT PRODUCT CITATIONS

1. Luo, D., et al. 2017. Deltex2 represses MyoD expression and inhibits myogenic differentiation by acting as a negative regulator of Jmjd1c. *Proc. Natl. Acad. Sci. USA* 114: E3071-E3080.
2. Lee, J.Y., et al. 2019. Histone Lys demethylase KDM3C demonstrates anti-inflammatory effects by suppressing NF $\kappa$ B signaling and osteoclastogenesis. *FASEB J.* 33: 10515-10527.
3. Viscarra, J.A., et al. 2020. Histone demethylase JMJD1C is phosphorylated by mTOR to activate *de novo* lipogenesis. *Nat. Commun.* 11: 796.
4. Wang, J., et al. 2022. JMJD1C regulates megakaryopoiesis in *in vitro* models through the Actin network. *Cells* 11: 3660.

## 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.

## PROTOCOLS

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