SANTA CRUZ BIOTECHNOLOGY, INC.

JMJD8 (H-4): sc-515520

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

JMJD8 (jumonji domain-containing protein 8) is a 334 amino acid protein that contains one Jumonji domain and is expressed as three isoforms produced by alternative splicing. The gene that encodes JMJD8 maps to human chromosome 16, which encodes over 900 genes in approximately 90 million base pairs, making up nearly 3% of human cellular DNA and is associated with a variety of genetic disorders. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16 through the CREBBP gene, which encodes a critical CREB binding protein. Signs of Rubinstein-Taybi include mental retardation and predisposition to tumor growth and white blood cell neoplasias. Crohn's disease is a gastrointestinal inflammatory condition associated with chromosome 16 through the NOD2 gene. An association with systemic lupus erythematosis and a number of other autoimmune disorders with the pericentromeric region of chromosome 16 has led to the identification of SLC5A11 as a potential autoimmune modifier.

CHROMOSOMAL LOCATION

Genetic locus: JMJD8 (human) mapping to 16p13.3; Jmjd8 (mouse) mapping to 17 A3.3.

SOURCE

JMJD8 (H-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 192-216 within an internal region of JMJD8 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

JMJD8 (H-4) is available conjugated to agarose (sc-515520 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515520 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515520 PE), fluorescein (sc-515520 FITC), Alexa Fluor® 488 (sc-515520 AF488), Alexa Fluor® 546 (sc-515520 AF546), Alexa Fluor® 594 (sc-515520 AF594) or Alexa Fluor® 647 (sc-515520 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515520 AF680) or Alexa Fluor® 790 (sc-515520 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515520 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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.

APPLICATIONS

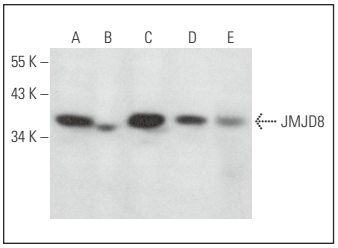
JMJD8 (H-4) is recommended for detection of JMJD8 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for JMJD8 siRNA (h): sc-93357, JMJD8 siRNA (m): sc-108778, JMJD8 shRNA Plasmid (h): sc-93357-SH, JMJD8 shRNA Plasmid (m): sc-108778-SH, JMJD8 shRNA (h) Lentiviral Particles: sc-93357-V and JMJD8 shRNA (m) Lentiviral Particles: sc-108778-V.

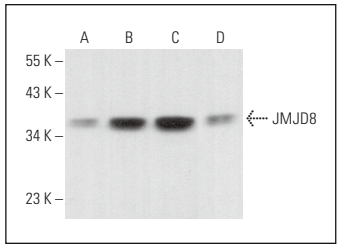
Molecular Weight of JMJD8: 32 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, COLO 320DM cell lysate: sc-2226 or human testis extract: sc-363781.

DATA



JMJD8 (H-4): sc-515520. Western blot analysis of JMJD8 expression in Jurkat (**A**), KNRK (**B**) and COLO 320DM (**C**) whole cell lysates and human testis (**D**) and human heart (**E**) tissue extracts.



JMJD8 (H-4): sc-515520. Western blot analysis of JMJD8 expression in Jurkat (**A**), COLO 205 (**B**), SW480 (**C**) and AT3B-1 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zhang, B., et al. 2021. JMJD8 promotes malignant progression of lung cancer by maintaining EGFR stability and EGFR/PI3K/AKT pathway activation. J. Cancer 12: 976-987.
2. You, D., et al. 2021. JMJD8 is a novel molecular nexus between adipocyte-intrinsic inflammation and Insulin resistance. Diabetes. E-published.
3. Wang, Y., et al. 2022. JMJD8 functions as a novel AKT1 lysine demethylase. Int. J. Mol. Sci. 24: 460.
4. Yi, J., et al. 2023. ER-localized JmjC domain-containing protein JMJD8 targets STING to promote immune evasion and tumor growth in breast cancer. Dev. Cell 58: 760-778.e6.
5. Canonico, F., et al. 2023. GLUT-1/PKM2 loop dysregulation in patients with non-ST-segment elevation myocardial infarction promotes metainflammation. Cardiovasc. Res. 119: 2653-2662.
6. Li, Y., et al. 2023. JMJD8 regulates neuropathic pain by affecting spinal cord astrocyte differentiation. Neurosci. Lett. 809: 137307.

PROTOCOLS

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