SANTA CRUZ BIOTECHNOLOGY, INC.

TMEFF1 (B-4): sc-393457

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

TMEFF1 and TMEFF2 are putative transmembrane proteins comprised of one epidermal growth factor (EGF)-like domain and two follistatin-like domains. Both TMEFF1 and TMEFF2 are members of the EGF-like protein family and are predominantly expressed in the brain. The structure of TMEFF1 is that of a transmembrane protein with a highly conserved cytoplasmic tail, two follistatin domains and one modified EGF domain in its extracellular region. TMEFF1 is expressed on the cell membrane, and may behave as a tumor suppressor gene in brain cancers. It inhibits nodal but not activin signaling by binding to Cripto, the nodal co-receptor, and is also involved in the regulation of BMPs.

REFERENCES

1. Kanemoto, N., et al. 2001. Expression of TMEFF1 mRNA in the mouse central nervous system: precise examination and comparative studies of TMEFF1 and TMEFF2. Brain Res. Mol. Brain Res. 86: 48-55.
2. Morais da Silva, S., et al. 2001. The expression pattern of tomoregulin-1 in urodele limb regeneration and mouse limb development. Mech. Dev. 104: 125-128.
3. Harms, P.W. and Chang, C. 2003. Tomoregulin-1 (TMEFF1) inhibits nodal signaling through direct binding to the nodal co-receptor Cripto. Genes Dev. 17: 2624-2629.

CHROMOSOMAL LOCATION

Genetic locus: TMEFF1 (human) mapping to 9q31.1; Tmeff1 (mouse) mapping to 4 B1.

SOURCE

TMEFF1 (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 222-247 within an internal region of TMEFF1 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.

TMEFF1 (B-4) is available conjugated to agarose (sc-393457 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393457 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393457 PE), fluorescein (sc-393457 FITC), Alexa Fluor® 488 (sc-393457 AF488), Alexa Fluor® 546 (sc-393457 AF546), Alexa Fluor® 594 (sc-393457 AF594) or Alexa Fluor® 647 (sc-393457 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393457 AF680) or Alexa Fluor® 790 (sc-393457 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393457 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.

APPLICATIONS

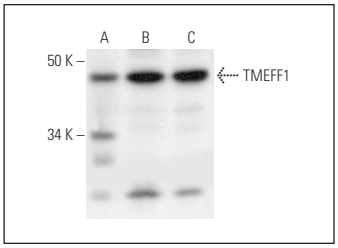
TMEFF1 (B-4) is recommended for detection of TMEFF1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 TMEFF1 siRNA (h): sc-45762, TMEFF1 siRNA (m): sc-45763, TMEFF1 shRNA Plasmid (h): sc-45762-SH, TMEFF1 shRNA Plasmid (m): sc-45763-SH, TMEFF1 shRNA (h) Lentiviral Particles: sc-45762-V and TMEFF1 shRNA (m) Lentiviral Particles: sc-45763-V.

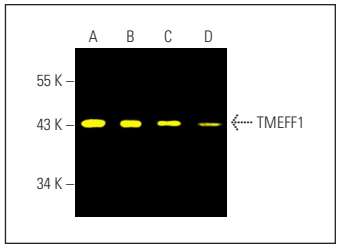
Molecular Weight of TMEFF1: 41 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, T98G cell lysate: sc-2294 or human heart extract: sc-363763.

DATA



TMEFF1 (B-4): sc-393457. Western blot analysis of TMEFF1 expression in human heart tissue extract (**A**) and T98G (**B**) and HeLa (**C**) whole cell lyates.



TMEFF1 (B-4) Alexa Fluor® 488: sc-393457 AF488. Direct fluorescent western blot analysis of TMEFF1 expression in C6 (**A**), SH-SY5Y (**B**), MOLT-4 (**C**) and U266 (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Xie, B., et al. 2022. The roles of miR-592-3p and its target gene, TMEFF1, in the nucleus accumbens during the incubation of morphine craving. Int. J. Neuropsychopharmacol. 25: 412-424.
2. Chen, R., et al. 2023. CircTmeff1 promotes muscle atrophy by interacting with TDP-43 and encoding a novel TMEFF1-339aa protein. Adv. Sci. 10: e2206732.
3. Nie, X., et al. 2024. ST14 interacts with TMEFF1 and is a predictor of poor prognosis in ovarian cancer. BMC Cancer 24: 330.
4. Chan, Y.H., et al. 2024. Human TMEFF1 is a restriction factor for herpes simplex virus in the brain. Nature 632: 390-400.

RESEARCH USE

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

PROTOCOLS

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