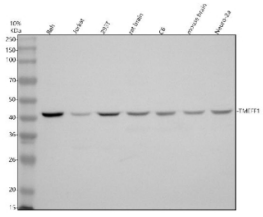
TMEFF1 Antibody / Transmembrane protein with EGF-like and two follistatin-like domains 1 (FY13330)

Catalog No.	Formulation	Size
FY13330	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8IYR6
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This TMEFF1 antibody is available for research use only.



Western blot analysis of TMEFF1 using anti-TMEFF1 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human REH whole cell lysates, Lane 2: human Jurkat whole cell lysates, Lane 3: human 293T whole cell lysates, Lane 4: rat brain tissue lysates, Lane 5: rat C6 whole cell lysates, Lane 6: mouse brain tissue lysates, Lane 7: mouse Neuro-2a whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-TMEFF1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. A specific band was detected for TMEFF1 at approximately 41 kDa. The expected molecular weight of TMEFF1 is ~41 kDa.

Description

TMEFF1 antibody detects Transmembrane protein with EGF-like and two follistatin-like domains 1, a single-pass transmembrane protein encoded by the TMEFF1 gene on chromosome 9p22.3. TMEFF1 is a cell surface glycoprotein belonging to the follistatin and EGF-like domain-containing family and is primarily expressed in the brain, prostate, and embryonic tissues. The protein localizes to the plasma membrane and participates in cell signaling, neurodevelopment, and tumor suppression. TMEFF1 contributes to neuronal differentiation and growth factor signaling modulation through interactions with growth factor receptors and extracellular matrix components.

TMEFF1 functions as a modulator of transforming growth factor beta (TGF-beta) and EGF signaling pathways. It binds heparin and cell-surface glycosaminoglycans, influencing receptor activation and downstream cascades. In neurons, TMEFF1 promotes survival and neurite extension, suggesting a role in brain development and maintenance. It has also been reported to exhibit tumor-suppressive properties by inhibiting EGF receptor signaling and cell proliferation in certain cancers.

Structurally, TMEFF1 contains an extracellular region with one epidermal growth factor (EGF)-like domain and two follistatin-like (FS) domains, a transmembrane helix, and a short cytoplasmic tail. These extracellular domains mediate ligand interactions, including potential binding with follistatin and growth factors, while the cytoplasmic region may transmit regulatory signals to intracellular effectors. TMEFF1 belongs to the follistatin domain protein family, known for regulating growth and differentiation through modulation of TGF-beta superfamily ligands.

TMEFF1 expression is most abundant in neurons, especially in the cerebellum, hippocampus, and olfactory bulb, indicating a role in neuronal connectivity and signaling. It is also detected in epithelial tissues of the prostate and testis. During development, TMEFF1 regulates neurogenesis and may act as a neuronal adhesion molecule. Co-localization studies show TMEFF1 associating with EGFR and ErbB2 at the plasma membrane, modulating their activation and downstream MAPK and PI3K-AKT pathways.

Dysregulation of TMEFF1 is implicated in cancer progression. Reduced expression correlates with poor prognosis in glioma, gastric, and colorectal cancers. Conversely, overexpression can suppress tumor growth by inhibiting proliferation and promoting apoptosis. The gene's promoter region is often hypermethylated in tumors, leading to transcriptional silencing. Pathway involvement includes TGF-beta signaling, EGFR signaling, and cell adhesion pathways.

TMEFF1 antibody from NSJ Bioreagents is a valuable tool for studies in neurobiology, cancer research, and growth factor signaling modulation.

Application Notes

Optimal dilution of the TMEFF1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human TMEFF1 recombinant protein (Position: K60-L331) was used as the immunogen for the TMEFF1 antibody.

Storage

After reconstitution, the TMEFF1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.