

MTDH (2F11C3D4): sc-517220

BACKGROUND

MTDH (metastasis adhesion protein), also known as astrocyte elevated gene-1 protein (AEG1) or lysine-rich CEACAM1 co-isolated protein (LYRIC), is a 582 amino acid single-pass membrane protein. Overexpressed in various cancers, MTDH activates the transcription factor NF κ B and promotes anchorage-independent growth of immortalized astrocytes and melanocytes, which are key components of tumor growth. MTDH is also thought to enhance the seeding of tumor cells to the target organ endothelium. Localized mainly to the endoplasmic reticulum membrane, MTDH also translocates from the cytoplasm to the nucleus when induced by TNF α . MTDH also localizes to tight junctions (TJ) during the maturation of TJ complexes in epithelial cells. MTDH is found at highest levels in heart, skeletal muscle, tongue and small intestine.

REFERENCES

1. Kang, D.C., et al. 2005. Cloning and characterization of HIV-1-inducible astrocyte elevated gene-1, AEG-1. *Gene* 353: 8-15.
2. Emdad, L., et al. 2006. Activation of the nuclear factor κ B pathway by astrocyte elevated gene-1: implications for tumor progression and metastasis. *Cancer Res.* 66: 1509-1516.

CHROMOSOMAL LOCATION

Genetic locus: MTDH (human) mapping to 8q22.1.

SOURCE

MTDH (2F11C3D4) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 378-579 of MTDH of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and 5% glycerol.

APPLICATIONS

MTDH (2F11C3D4) is recommended for detection of MTDH of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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), flow cytometry (1 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MTDH siRNA (h): sc-77797, MTDH shRNA Plasmid (h): sc-77797-SH and MTDH shRNA (h) Lentiviral Particles: sc-77797-V.

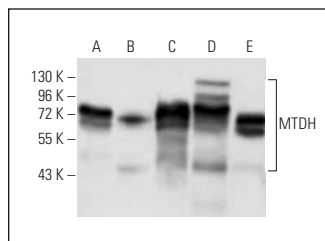
Molecular Weight of MTDH: 64 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or MCF7 whole cell lysate: sc-2206.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



MTDH (2F11C3D4): sc-517220. Western blot analysis of MTDH expression in K-562 (A), SK-BR-3 (B), T-47D (C), HeLa (D) and MCF7 (E) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Qiao, W., et al. 2017. MicroRNA-154 inhibits the growth and metastasis of gastric cancer cells by directly targeting MTDH. *Oncol. Lett.* 14: 3268-3274.
2. Yang, J., et al. 2017. MicroRNA-202 inhibits cell proliferation, migration and invasion of glioma by directly targeting metadherin. *Oncol. Rep.* 38: 1670-1678.
3. Liang, C., et al. 2017. MicroRNA-433 inhibits cervical cancer progression by directly targeting metadherin to regulate the AKT and β -catenin signalling pathways. *Oncol. Rep.* 38: 3639-3649.
4. Chen, Z., et al. 2017. MicroRNA-216b inhibits cell proliferation and invasion in glioma by directly targeting metadherin. *Mol. Med. Rep.* 16: 9749-9757.
5. Wang, Q., et al. 2018. MicroRNA-98/PTEN/AKT pathway inhibits cell proliferation and malignant progression of hypopharyngeal carcinoma by MTDH. *Oncol. Rep.* 41: 863-874.
6. Liao, Z., et al. 2018. MicroRNA-197 inhibits gastric cancer progression by directly targeting metadherin. *Mol. Med. Rep.* 17: 602-611.
7. Liu, K., et al. 2018. MicroRNA-675 inhibits cell proliferation and invasion in melanoma by directly targeting metadherin. *Mol. Med. Rep.* 17: 3372-3379.
8. Li, L. and Zhang, H. 2018. MicroRNA-379 inhibits cell proliferation and invasion in glioma via targeting metadherin and regulating PTEN/AKT pathway. *Mol. Med. Rep.* 17: 4049-4056.
9. Li, J., et al. 2018. MicroRNA-30a-5p suppresses tumor cell proliferation of human renal cancer via the MTDH/PTEN/AKT pathway. *Int. J. Mol. Med.* 41: 1021-1029.
10. Bi, J., et al. 2019. Metadherin enhances vulnerability of cancer cells to ferroptosis. *Cell Death Dis.* 10: 682.

RESEARCH USE

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