SANTA CRUZ BIOTECHNOLOGY, INC.

DMBT1 (G-4): sc-514566

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

As human tumors progress to advanced stages, one genetic alteration that occurs at high frequency is a loss of heterozygosity (LOH) at chromosome 10. Mapping of homozygous deletions on this chromosome led to the isolation of the PTEN (also designated MMAC1 and TEP1), DMBT1 (for deleted in malignant brain tumors 1) and LGI1 (for leucine-rich gene-glioma inactivated 1) candidate tumor suppressor genes. The PTEN gene exhibits a high frequency of mutations in human glioblastomas and is also mutated in other cancers, including sporadic brain, breast, kidney and prostate cancers. Reduced levels of DMBT1 mRNA have been noted in gastrointestinal and esophageal cancers as well as in gliomas. LGI1, which is highly specific for neural tissues, shares homology with several transmembrane and extracellular proteins that function as receptors and adhesion proteins.

REFERENCES

1. Bigner, S.H., et al. 1988. Specific chromosomal abnormalities in malignant human gliomas. Cancer Res. 48: 405-411.
2. James, C.D., et al. 1988. Clonal genomic alterations in glioma malignancy stages. Cancer Res. 48: 5546-5551.
3. Steck, P.A., et al. 1997. Identification of a candidate tumour suppressor gene, MMAC1, at chromosome 10q23.3 that is mutated in multiple advanced cancers. Nat. Genet. 15: 356-362.
4. Li, J., et al. 1997. PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer. Science 275: 1943-1947.

CHROMOSOMAL LOCATION

Genetic locus: DMBT1 (human) mapping to 10q26.13; Dmbt1 (mouse) mapping to 7 F3.

SOURCE

DMBT1 (G-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 25-49 near the N-terminus of DMBT1 of mouse 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.

DMBT1 (G-4) is available conjugated to agarose (sc-514566 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514566 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514566 PE), fluorescein (sc-514566 FITC), Alexa Fluor® 488 (sc-514566 AF488), Alexa Fluor® 546 (sc-514566 AF546), Alexa Fluor® 594 (sc-514566 AF594) or Alexa Fluor® 647 (sc-514566 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514566 AF680) or Alexa Fluor® 790 (sc-514566 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514566 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

DMBT1 (G-4) is recommended for detection of DMBT1a, DMBT1b and DMBT1c 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 DMBT1 siRNA (h): sc-35196, DMBT1 siRNA (m): sc-35197, DMBT1 shRNA Plasmid (h): sc-35196-SH, DMBT1 shRNA Plasmid (m): sc-35197-SH, DMBT1 shRNA (h) Lentiviral Particles: sc-35196-V and DMBT1 shRNA (m) Lentiviral Particles: sc-35197-V.

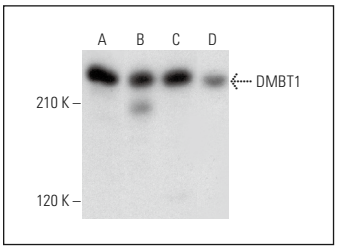
Molecular Weight of DMBT1: 200 kDa.

Positive Controls: WI-38 whole cell lysate: sc-364260, HeLa whole cell lysate: sc-2200 or A-10 cell lysate: sc-3806.

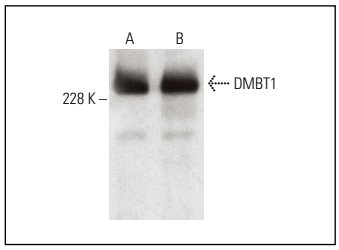
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DMBT1 (G-4): sc-514566. Western blot analysis of DMBT1 expression in HeLa (**A**), BC_3H1 (**B**), AMJ2-C8 (**C**) and A-10 (**D**) whole cell lysates.



DMBT1 (G-4) HRP: sc-514566 HRP. Direct western blot analysis of DMBT1 expression in HeLa (**A**) and WI-38 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Reale, C., et al. 2019. A toxicogenomic approach reveals a novel gene regulatory network active in *in vitro* and *in vivo* models of thyroid carcinogenesis. Int. J. Environ. Res. Public Health 16: 122.

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.