Human MTAP Antibody

Monoclonal Mouse IgG_{2A} Clone # 1113601

Catalog Number: MAB11747

DESCRIPTION

Species Reactivity	Human
Specificity	Detects recombinant human MTAP protein in Direct ELISA
Source	Monoclonal Mouse IgG_{2A} Clone # 1113601
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human MTAP Accession # Q13126
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	HT-29 human colon adenocarcinoma cell line, HCT-116 human colorectal carcinoma cell line and Raji human Burkitt's lymphoma cell line
Immunocytochemistry	3-25 µg/mL	Immersion fixed HT-29 human colon adenocarcinoma cell line and MCF-7 human breast cancer cell line
Immunohistochemistry	3-25 µg/mL	Immersion fixed paraffin-embedded sections of human colon and human kidney

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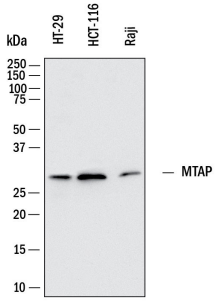
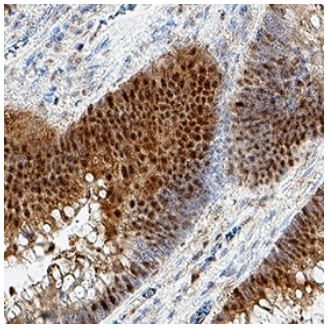
DATA

Western Blot



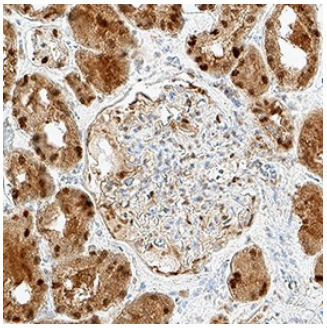
Detection of Human MTAP by Western Blot. Western Blot shows lysates of HT-29 human colon adenocarcinoma cell line, HCT-116 human colorectal carcinoma cell line and Raji human Burkitt's lymphoma cell line. PVDF membrane was probed with 1 µg/ml of Mouse Anti-Human MTAP Monoclonal Antibody (Catalog # MAB11747) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for MTAP at approximately 29 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

Immunohistochemistry



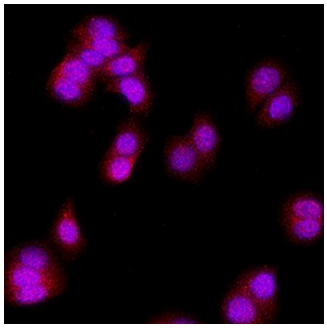
Detection of MTAP in Human Colon. MTAP was detected in immersion fixed paraffin-embedded sections of human colon using Mouse Anti-Human MTAP Monoclonal Antibody (Catalog # MAB11747) at 5 µg/ml overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using the HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007) and counterstained with hematoxylin (blue). Specific staining was localized to the cytoplasm and nucleus. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Immunohistochemistry



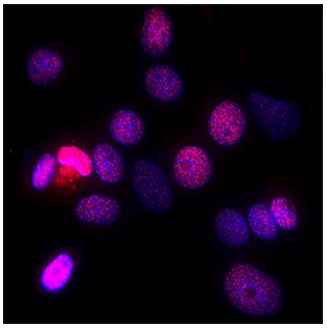
Detection of MTAP in Human Kidney. MTAP was detected in immersion fixed paraffin-embedded sections of human kidney using Mouse Anti-Human MTAP Monoclonal Antibody (Catalog # MAB11747) at 5 µg/ml overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using the HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007) and counterstained with hematoxylin (blue). Specific staining was localized to the cytoplasm and nucleus. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Immunocytochemistry



Detection of MTAP in HT-29 Human Cell Line. MTAP was detected in immersion fixed HT-29 human colon adenocarcinoma cell line using Mouse Anti-Human MTAP Monoclonal Antibody (Catalog # MAB11747) at 8 µg/ml for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to the cytoplasm and nucleus. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Immunocytochemistry



Detection of MTAP in MCF-7 Human Cell Line. MTAP was detected in immersion fixed MCF-7 human breast cancer cell line using Mouse Anti-Human MTAP Monoclonal Antibody (Catalog # MAB11747) at 8 µg/ml for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to the cytoplasm and nucleus. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

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PREPARATION AND STORAGE

Reconstitution	Reconstitute lyophilized material at 0.2 mg/ml in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Methyl-thioadenosine phosphorylase/MTAP is part of the PNP/MTAP phosphorylase family and catalyzes the reversible phosphorylation of S-methyl-5'-thioadenosine (MTA), a major byproduct of polyamine synthesis essential for cell growth and proliferation. MTAP also produces most of the free adenine generated in human cells through a salvage pathway and thus couples the purine salvage pathway with polyamine biosynthesis. MTAP forms an active trimer where each identical 32 kDa monomer contains a separate active site (1). Each active site contains three distinct regions required for base-, methylthioribose-, and sulfate/phosphate-binding (1). MTAP is cytosolic and abundantly expressed in normal cells and tissues (2). In contrast, deficient MTAP expression is observed in many types of tumors including lung, bladder, pancreatic, and endometrial cancer (3) due to hyper-methylation gene suppression (4) or gene deletion (3, 5, 6). MTA accumulation leads to an immunosuppressive tumor microenvironment and apoptotic resistance (7-9) and MTAP directly regulates the level of MTA present. MTAP has been reported as a tumor suppressor (6,10) that may also act in a manner that is independent of enzymatic activity (11) through signaling pathways such as the insulin-like growth factor-1 receptor pathway (12). Potential therapeutic strategies to exploit MTAP deficiency in tumors (13,14) or inhibit MTAP in tumors that express MTAP, such as prostate cancer, are under investigation (15).

References:

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