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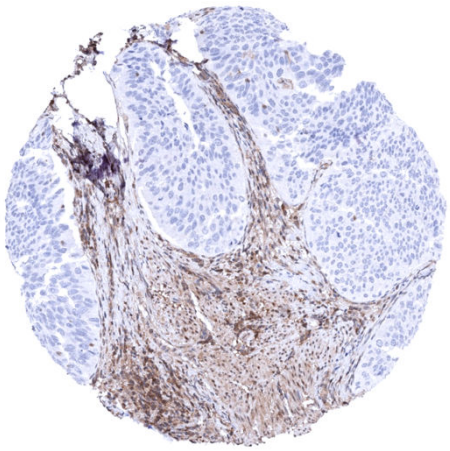
Anti-MTAP Antibody
MSVA-741R / Recombinant Rabbit monoclonal

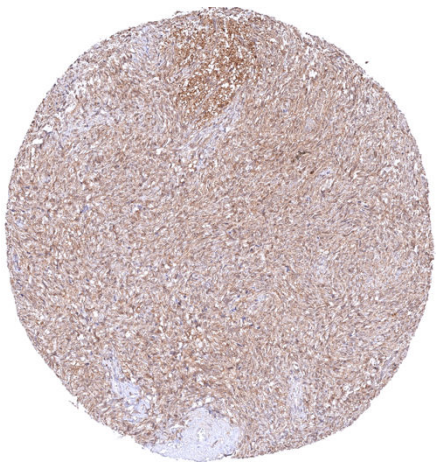
Human SwissProt	Q13126
Human Gene Symbol	MTAP
Synonyms	BDMF; DMSFH; DMSMFH; Epididymis luminal protein 249; HEL249; LGMBF; MeSAdo phosphorylase; Methylthioadenosine phosphorylase; MSAP; MTA phosphorylase; MTAPase; S-methyl-5''-thioadenosine phosphorylase
Specificity	MTAP
Immunogen	Recombinant human MTAP protein fragment (aa95-197) (exact sequence is proprietary)
Isotype	Rabbit / IgG
Species Reactivity	Human
Localization	Cytoplasmic

Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. A ntibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	Purified antibody from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with <1% BSA & <0.1% azide. Antibody concentrate is optimized for dilution within dilution range using commercially available antibody diluent for IHC.
Positive Control	Ovary: At least a moderate, nuclear and/or cytoplasmic MTAP staining should be seen in ovarian stroma cells.
Negative Control	Bladder cancer with homozygous 9p deletion: MTAP staining should be absent in cells from urothelial tumors with homozygous 9p deletion.

Urothelium with intense cytoplasmic and nuclear MTAP staining of all epithelial cells



Non-invasive urothelial carcinoma (pTa) with complete absence of MTAP staining in all tumor cells. MTAP positive stroma cells serve as an internal control



Moderate, predominantly cytoplasmic MTAP staining of ovarian stroma cells

Biology

S-methyl-5'-thioadenosine phosphorylase (MTAP) plays a critical indirect role for the synthesis of DNA and RNA because it is essential for the synthesis of adenine, one of the purine bases required for both DNA and RNA. The MTAP gene is located at 9p21.3, in the immediate vicinity of CDKN2A which is homozygously deleted in about 15% of all human cancers. Homozygous co-deletion of MTAP occurs in 80%–90% of tumors with CDKN2A deletion and results in a complete loss of MTAP expression and an accumulation of the MTAP substrate MTA in affected cells. Because of an MTA induced inhibition of PRMT5, a result critical vulnerability of cells to drugs targeting of the MAT2A/PRMT5/RIOK1 axis develop. Inhibitors of these enzymes are now being tested in clinical trials recruiting patients with homozygously 9p21 deleted and MTAP inactivated tumors. In normal tissues, a nuclear and/or cytoplasmic MTAP immunostaining occurs in most cell types at variable intensity. A particularly strong staining occurred in ovarian stroma, endothelial cells, urothelium, adrenal gland, and the thyroid. Among cancers, a complete loss of MTAP expression occurs in tumors with a homozygous 9p deletion. This can be seen in a fraction of cases of urothelial dysplasia, urothelial cancer, malignant mesotheliomas, as well as - less commonly - in various other tumor entities.

Potential Research Applications

-In urine cytology, a complete loss of MTAP expression in urothelial cells argues for urothelial neoplasia (often low grade).
-In flat urothelium, a complete loss of MTAP expression argues for urothelial dysplasia.
-In case of a mesothelial cell proliferation, a complete loss of MTAP expression may argue for malignant mesothelioma.
-In all tissues, a complete loss of MTAP expression may argue for a neoplasm.

Protocol Suggestions

Dilution: 1:50 ; pH 7,8 is optimal. Freshly cut sections should be used (more than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

This antibody is available for **research use only** and is not approved for use in diagnostics. Not for resale without express authorization.

Warranty

There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.