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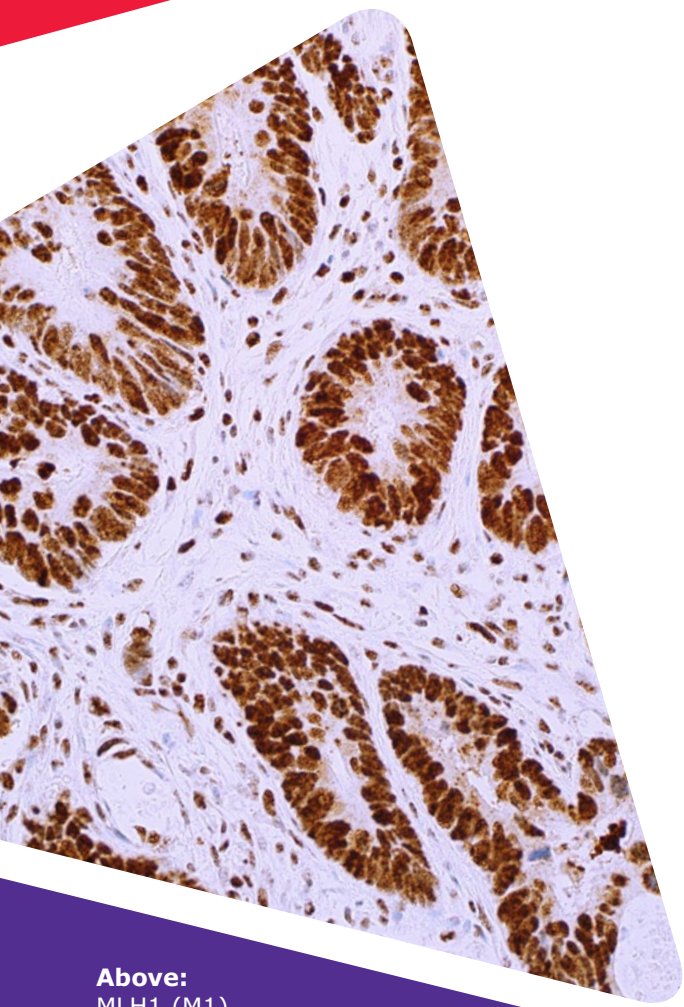
MERCK



Above:
MLH1 (M1)

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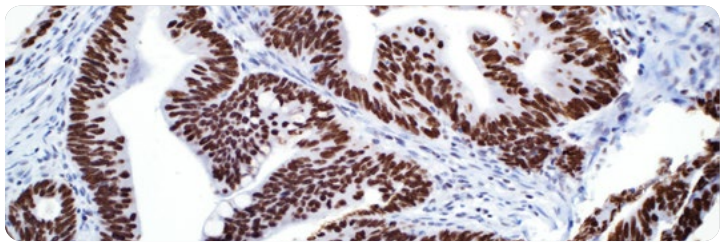
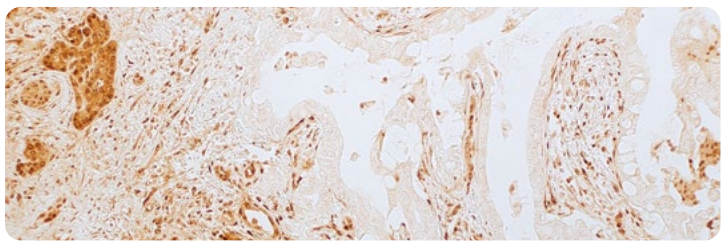
Cell Marque™ Tissue Diagnostics

Gastrointestinal (GI) Pathology



SATB2 (EP281)

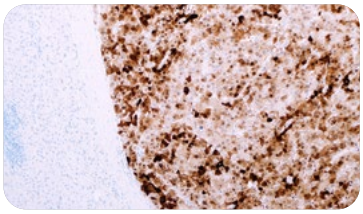
Special AT-rich sequence-binding protein 2 (SATB2) is a marker that functions as a nuclear matrix-associated transcription factor that has been shown to identify colorectal carcinomas, including poorly differentiated colorectal carcinomas and metastases.[1-3] Adenocarcinomas including breast, lung, and ovary may express SATB2 at lower frequencies.[1-5] Therefore, SATB2 is useful for identifying a carcinoma of colorectal origin when identifying a cancer of unknown primary.[1,2]



SMAD4 (MRQ-72)

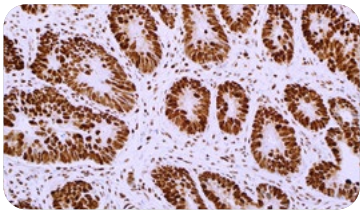
Mothers Against Decapentaplegic Homolog 4 (SMAD4) is a transcription factor that is involved in TGFβ signaling pathways and acts as a tumor suppressor.[1] SMAD4 is commonly expressed in a variety of cancers, including pancreatic ductal adenocarcinoma (PDA), colorectal carcinoma (CRC), hepatocellular carcinoma (HCC), and gastric carcinomas, as well as non-neoplastic liver, pancreas, and colon[2-5]. However, a loss of expression has been observed in a subset of PDA, CRC and gastric carcinomas due to a variety of mutations including nonsense, missense, deletions, and splice site changes[2-4,6]. In contrast, SMAD4 is over-expressed in HCC compared to the weak expression that is exhibited in non-neoplastic liver.[5]

Gastrointestinal (GI) Pathology



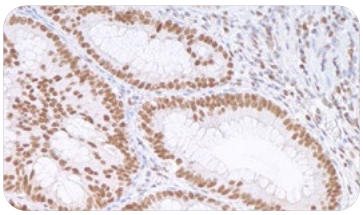
Heat Shock Protein 70 (EP377)

The Heat Shock Protein 70 family of highly conserved chaperone proteins increase in expression upon exposure to stress factors such as temperature shock, hypoxia, oxidative stress, and pH change.[1] This promotes cell survival by repairing misfolded proteins and preventing protein aggregates, among other functions.[1] Likewise, tumor cells can use this mechanism to confer a survival advantage as demonstrated in Heat Shock Protein 70 overexpression in hepatocellular carcinoma.[1-5]



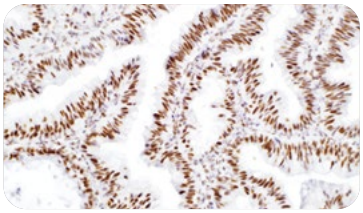
MLH1 (M1)

MLH1 is a mismatch repair protein involved in recognition and repair of spontaneous errors that arise during cellular DNA replication. The inactivation of MLH1 results in impaired DNA mismatch repair caused by deficient MLH1 expression. This can be observed in several malignancies, not the least of which are colorectal carcinoma and endometrial carcinoma. Anti-MLH1 is useful in the identification of the MLH1 protein in normal and neoplastic tissues and in identifying loss of MLH1 expression in tumors with a dysfunctional DNA mismatch repair system.[1-3]



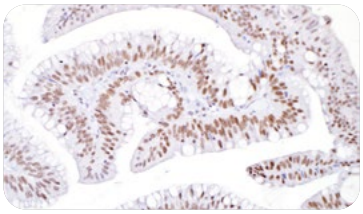
MSH2 (G219-1129)

MSH2 is a mismatch repair protein which is deficient in a high proportion of patients with microsatellite instability (MSI-H). It has been suggested that the deficiencies in DNA mismatch repair protein(s) can be seen in some malignancies such as hereditary nonpolyposis colorectal cancer (HNPCC) and endometrial cancer. Anti-MSH2 may be useful in the identification of the the MSH2 protein in a variety of normal and neoplastic tissues and the identification of loss of MSH2 in tumors with MSI genotype.[1-8] Anti-MSH2 is best utilized in an IHC panel that includes anti-MLH1, anti-MSH6, and anti-PMS2.



MSH6 (SP93)

MSH6 is a mismatch repair protein which is deficient in a high proportion of patients with microsatellite instability (MSI-H). It has been suggested that the deficiencies in DNA mismatch repair protein(s) can be seen in some malignancies such as hereditary nonpolyposis colorectal cancer (HNPCC) and endometrial cancer. Anti-MSH6 may be useful in the identification of the MSH6 protein in a variety of normal and neoplastic tissues and the identification of loss of MSH6 in tumors with MSI genotype.[1-6] Anti-MSH6 is best utilized in an IHC panel that includes anti-MLH1, anti-MSH2, and anti-PMS2.



PMS2 (MRQ-28)

PMS2 is a mismatch repair protein that is deficient in a high proportion of patients with microsatellite instability (MSI-H). It has been suggested that the deficiencies in DNA mismatch repair protein(s) can be seen in some malignancies such as hereditary nonpolyposis colorectal cancer (HNPCC) and endometrial cancer. Anti-PMS2 may be useful in the identification of the PMS2 protein in a variety of normal and neoplastic tissues and the identification of loss of MLH1 in tumors with MSI genotype.[1-7] Anti-PMS2 is best utilized in an IHC panel that includes anti-MSH6, anti-MSH2, and anti-MLH1.

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These antibodies are intended for *in vitro* diagnostic (IVD) use. Each antibody is intended for laboratory use in the detection of the target protein in formalin-fixed, paraffin-embedded tissue stained in qualitative immunohistochemistry (IHC) testing. The results using this product should be interpreted by a qualified pathologist in conjunction with the patient's relevant clinical history, other diagnostic tests and proper controls.

Scan for references

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