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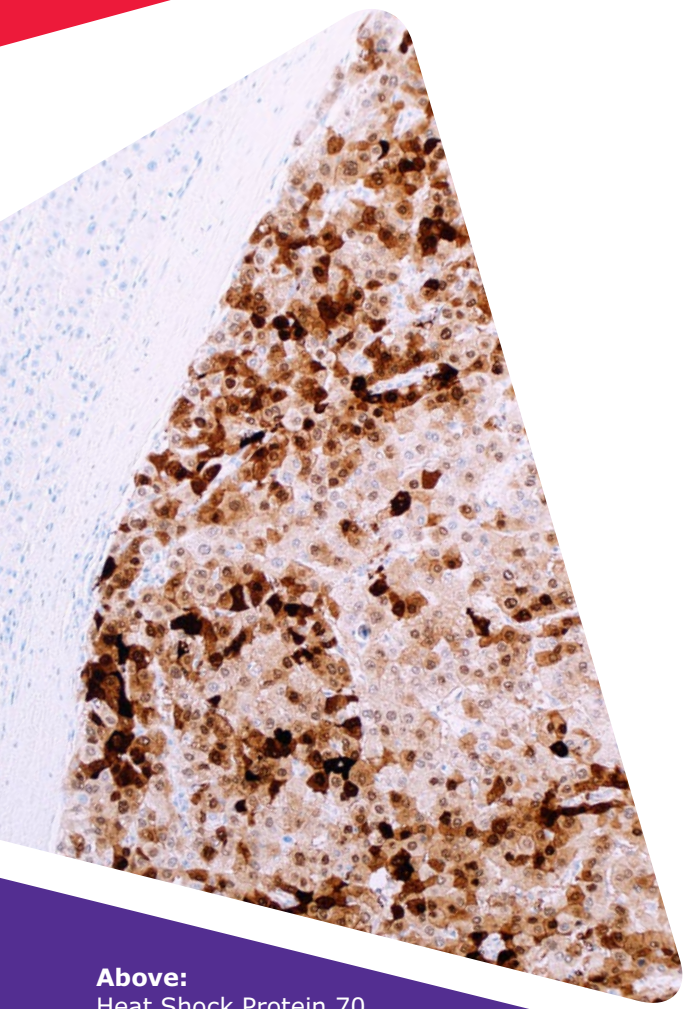

Above:
Heat Shock Protein 70

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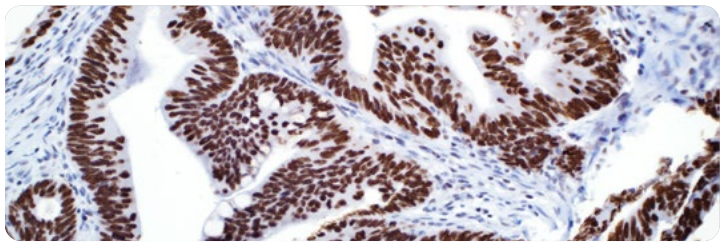
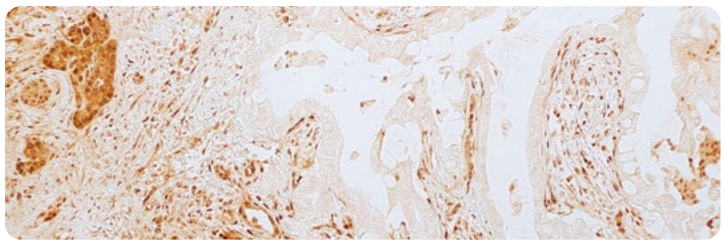
Cell Marque™ Tissue Diagnostics

Gastrointestinal (GI) Pathology



SATB2 (EP281)

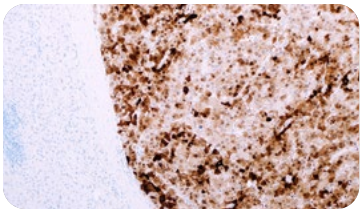
Special AT-rich sequence-binding protein 2 (SATB2) is a marker that functions as a nuclear matrix-associated transcription factor that has been shown to identify colorectal carcinomas, including poorly differentiated colorectal carcinomas and metastases.[1-3] Adenocarcinomas including breast, lung, and 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)

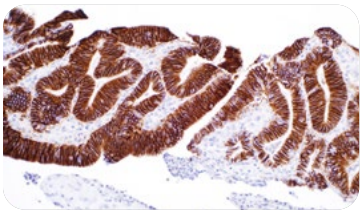
Mothers Against Decapentaplegic Homolog 4 (SMAD4) is a transcription factor that is involved in TGFβ signaling pathways and acts as a tumor suppressor.[1] SMAD4 is commonly expressed in a variety of cancers, including pancreatic ductal adenocarcinoma (PDA), colorectal carcinoma (CRC), hepatocellular 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



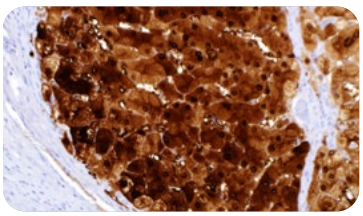
Heat Shock Protein 70 (EP377)

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]



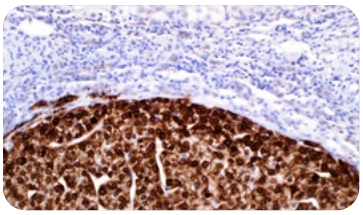
Cadherin-17 (SP183)

The subcellular distribution of cadherin-17 is different from classic cadherins. In intestinal epithelial cells, E-cadherin is concentrated in adherens junctions whereas cadherin-17 is evenly distributed along the lateral contact area. Human normal tissues that are strongly stained with cadherin-17 include appendicular epithelium, colonic epithelium, and small intestinal epithelium.[1] Other normal human tissues are not stained with cadherin-17.[1] The results above indicate cadherin-17 can be used as a marker for identification of primary sites of tumors. In-house studies have shown that cadherin-17 expression is usually diffuse and strong in colorectal adenocarcinomas, whereas it is usually focal or scattered in adenocarcinomas of the stomach, pancreas and bile duct, and is virtually absent in tumors of other anatomic sites.



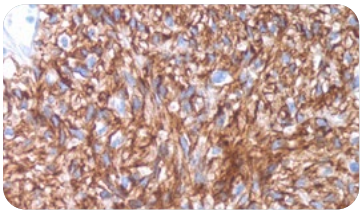
Arginase-1 (SP156)

Arginase is a key metalloenzyme of the urea cycle responsible for the hydrolysis of L-arginine to L-ornithine and urea.[1] Two main isoforms exist, arginase-1 and arginase-2, encoded by two different genes and with different tissue distributions. The arginase-1 isoform is a cytosolic protein found primarily in high amounts in hepatocytes and is typically expressed in neoplastic cells of liver malignancies with hepatocellular differentiation, such as hepatocellular carcinoma.[1-3] Detection of arginase-1 enzyme by immunohistochemistry with anti-Arginase-1 (SP156) Rabbit Monoclonal Primary Antibody may be used as a hepatocyte marker to aid in the identification of hepatocellular differentiation in benign and malignant lesions.[3]



Glutamine Synthetase (GS-6)

Glutamine synthetase (GS) catalyzes the synthesis of glutamine from glutamate and ammonia in the mammalian liver. In normal liver, GS expression is seen in centrilobular (zone 3) hepatocytes, but not in mid-zone (zone 2) or periportal (zone 3) hepatocytes. Glutamine synthetase immunohistochemistry is also positive in neoplasms of hepatocye origin, such as hepatocellular carcinoma (HCC) and hepatocellular adenoma, making it useful for identifying these tumors.[1-2]



DOG1 (SP31)

DOG1 is a calcium-dependent chloride channel protein that is encoded by a gene called TMEM16A (TMEM16 FLJ10261, ANO1, ORAOV2, and AOS2) located on chromosome 11q13.[1] DOG1 has many significant functions such as regulation of the cholinergic activity of gastrointestinal smooth muscle[2, 3] and regulation of both the survival and proliferation of cells.[4] Anti-DOG1 antibody has been shown to be useful in the identification of gastrointestinal stromal tumors (GIST).[5]

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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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