CELL MARQUE
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Spotlight On:

Rev. 0.1

Glutamine Synthetase (GS-6)

The liver is one of the most common sites of primary cancer involvement. Cancer often metastasizes to the liver from other organs, such as the pancreas or colon. When liver cells (hepatocytes) become malignant, it is known as hepatocellular carcinoma (HCC). Worldwide, this is the third most common carcinoma, especially prevalent in Southeast Asia. For smaller liver nodules that are hypovascular, imaging isn't as useful and biopsies are the standard procedure for reliable diagnosis. Differentiating HCC from benign liver neoplasms or metastatic malignancies by immunohistochemistry is a valuable tool for pathologists.

Anti-glutamine synthetase has been published as one of the key markers used in the identification of liver neoplasms. Glutamine synthetase is expressed in pericentral (centrilobular-zonal, zone 3) hepatocytes in normal liver, but not hepatocytes in the midlobular zone (zone 2) or in the periportal zone (zone 1). In focal nodular hyperplasia it stains in a "map-like" pattern that is characteristic only of FNH, while hepatic adenoma is normally negative or sparsely positive for glutamine synthetase. In HCC, glutamine synthetase stains strongly and diffusely in the malignant hepatocytes. Glutamine synthetase has demonstrated an overall higher sensitivity for HCC than glypican-3.[1]

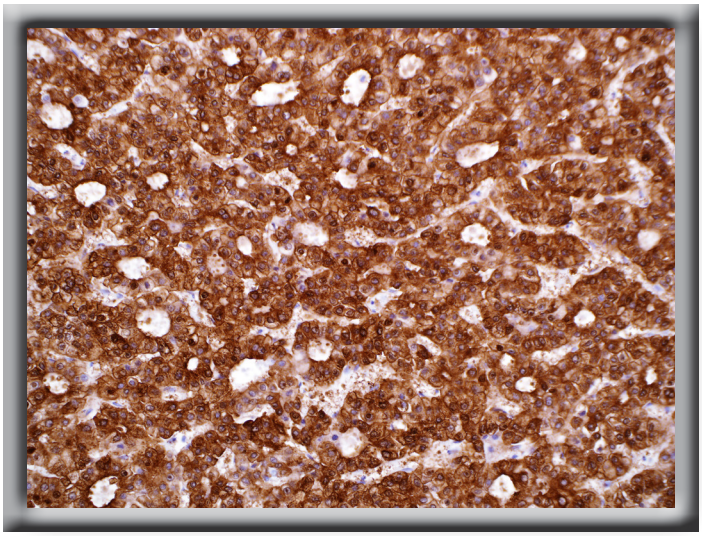
Benefits of Glutamine Synthetase:

- For *in vitro* diagnostic use
- Useful for distinguishing malignant hepatocellular neoplasms vs. benign hepatocellular tumors (including adenoma and focal nodular hyperplasia)
- Reported with higher overall sensitivity for HCC than AFP or glypican-3
- Labels focal nodular hyperplasia with a unique "map-like" pattern to distinguish FNH from hepatocellular adenoma
- Utilized in a panel that may include arginase-1, hep-par1, and glypican-3

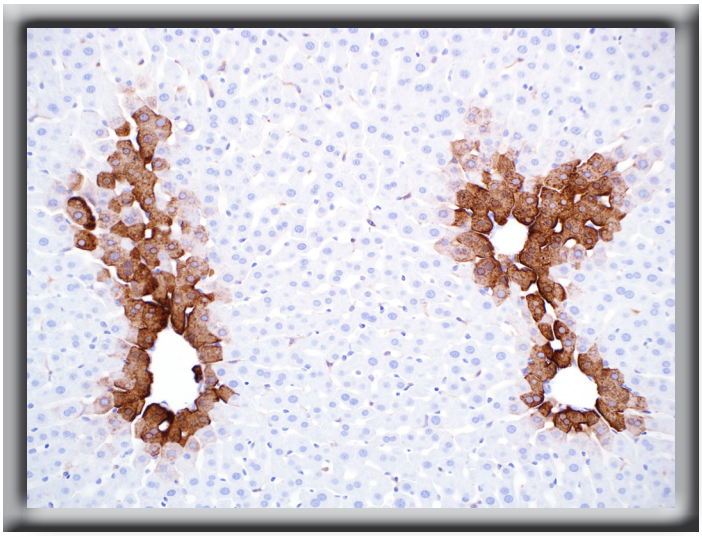
1. Witjes CDM, et al. J Clin Pathol; 10: 1136.

Ordering Information:

0.1 ml concentrate	389M-14
0.5 ml concentrate	389M-15
1 ml concentrate	389M-16
1 ml predilute	389M-17
7 ml predilute	389M-18
5 positive control slides	389S



Anti-glutamine synthetase demonstrates strong and diffuse expression of glutamine synthetase in hepatocellular carcinoma cells.



In normal liver, glutamine synthetase is present in the pericentral hepatocytes (zone 3), whereas hepatocytes in zones 1 and 2 are not stained by the antibody.

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