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Product Information

MONOCLONAL ANTI- α -FETOPROTEIN (AFP) CLONE C3 Mouse Ascites Fluid

Product No. **A 8452**

Product Description

Monoclonal Anti- α -Fetoprotein (AFP) (mouse IgG2a isotype) is derived from the C3 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with purified human α -fetoprotein. The isotype is determined using the Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

α -Fetoprotein (AFP) is a single-chain glycoprotein (70 kDa) that is normally expressed in the fetal liver, gastrointestinal tract, and yolk sac.² In early fetal life it is one of the main plasma proteins and the AFP level can be 1,000-fold higher than in normal individuals after birth. AFP is closely related to albumin both genetically and structurally.³ There are extensive homologies in amino acid sequence between AFP and albumin, and the genes encoding for both proteins have been mapped to the same region in human chromosome 4. As albumin synthesis increases during later fetal development, AFP concentrations in serum begin to decline, reaching the trace concentrations (<3 μ g/L) found in normal adults. Synthesis of AFP reappears in a variety of disease states, often associated with increased concentrations of AFP in serum. Markedly high serum levels are found in patients with malignant tumors of childhood, such as hepatoblastomas and nephroblastomas, and in adults with hepatocellular carcinoma and certain testicular tumors.⁴ Increased concentrations of AFP in serum are less common in patients with malignancies of the gastrointestinal tract and of other organ systems with massive hepatic metastases. Hence, AFP determination is useful for the diagnosis of certain germ line tumors that contain yolk sac structures (testicular and ovarian tumors), hepatocellular carcinoma (hepatoma), and some malignant tumors of the gastrointestinal tract.⁵

Furthermore, AFP determination is indicated for post-operative and therapy monitoring of patients with AFP-producing tumors and for monitoring tumor growth and liver metastases. AFP has been immunohisto-chemically demonstrated in gonadal or extragonadal germ cell tumors and in many hepatocellular carcinomas. In germ cell tumors, AFP is found most frequently in areas of yolk sac and endoderm sinus differentiation. AFP has been detected in pulmonary and in some mammary, gastric, and pancreatic carcinomas. AFP immunoreactivity may be found in regenerative liver and in non-neoplastic hepatocytes adjacent to metastatic tumors. Additionally, AFP serves as an important marker for certain genetic and embryonic defects. Routine screening of pregnancies with a risk of neural tube defects (spina bifida, anencephaly, and Down's syndrome) may be facilitated by the monitoring of AFP levels.

Monoclonal Anti- α -Fetoprotein (AFP) recognizes an epitope of α -fetoprotein, present in human and several other species.¹ It is reactive in ELISA, dot blot, and immunohistochemical staining of formalin-fixed, paraffin-embedded tissue sections. Cross-reactivity has been observed with human, dog, and pig, but not with bovine, cat, rat, and mouse.¹ The product does not cross-react with human serum albumin.

Reagents

The product is provided as ascites fluid with 0.1% sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage

For continuous use, store at 2-8 °C for up to one month. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

Monoclonal Anti- α -Fetoprotein (AFP) may be used for the localization of AFP using various immunochemical assays including ELISA, dot blot and immunohistochemistry.

Titer 1:500

The antibody titer was determined by indirect immunoperoxidase labeling of formalin-fixed, paraffin-embedded sections of human fetal liver.

In order to obtain best results in different techniques or preparations, it is recommended that each individual user determine their optimal working dilutions by titration assay.

References

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