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Product No. P-5687
Monoclonal Anti-Prostatic Acid Phosphatase
Mouse Ascites Fluid
Clone PAP-12

Lot 012H4834

Monoclonal anti-Prostatic Acid Phosphatase (mouse IgG1 isotype) is derived from the PAP-12 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with purified human prostatic acid phosphatase. The isotype is determined using Sigma ImmunoType™ Kit (Sigma Stock No. ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma Stock No. ISO-2). The product is provided as ascites fluid with 0.1% sodium azide (see MSDS)* as a preservative.

Specificity

Monoclonal anti-Prostatic Acid Phosphatase recognizes human prostatic acid phosphatase (PAP) applying various immunochemical techniques. In immunoblotting, using denatured-reduced human seminal plasma, the antibody labels the 48 kD subunits of the PAP molecule, but not the prostatic specific antigen (PSA). Binding of the antibody to PAP does not inhibit its enzymatic activity. The antibody is also reactive against PAP in indirect and sandwich ELISA techniques.

Description

Human prostatic acid phosphatase (PAP, EC 3.1.3.2) is an isoenzyme of acid phosphatase found in large amounts in the prostate gland and seminal fluid. It is a 100 kD glycoprotein, that dissociates into two identical subunits of approx. 48 kD at pH 2.0 or lower, or at pH 7.4 or greater.[1] The enzyme is proposed to function as a hydrolase that splits phosphorylcholine in the semen and as a transferase. PAP is abundantly present in the cytoplasm of epithelial cells in prostatic glands and ducts. It was also reported to be expressed in some extra prostatic locations such as pancreatic islet cells, gastric parietal cells, kidney tubules, urethral glands, male anal glands and in scattered cells in the rectum.[2,3]

The enzyme is also found in benign and malignant prostatic epithelium. Occasional immunohistochemical staining for PAP was described[2] in some non-prostatic tumors e.g. breast, renal and bladder carcinomas and carcinoids. The total PAP in the prostate increases with proliferation of the gland and consequently serum PAP concentration testing serves as a useful device in monitoring tumor progression, recurrence and therapeutic effectiveness. Determination of the prostate as the origin of metastatic adenocarcinoma also relies on the availability of a specific marker for prostate tissue. Due to the presence of various closely related acid phosphatases in serum and tissue including some that are elevated by other malignant and non-malignant diseases, the desired PAP assay should prove to be a specific, sensitive and reliable one. Monoclonal antibody which reacts specifically against PAP, used alone or concomitantly with other antibodies to prostatic antigen, is useful in this regard.

Uses

Monoclonal anti-Prostatic Acid Phosphatase is a homogenous population of antibody molecules which may be used for the localization of prostatic acid phosphatase using various immunochemical assays such as ELISA and immunoblotting.

TITER: 1:800

The antibody titer was determined by indirect ELISA using purified preparation of human prostatic acid phosphatase for coating of microtiter plate (10 µg/ml).
In order to obtain best results in different techniques and preparations, it is recommended that each individual user determine their optiumum working dilutions by titration assay.

Storage

For continuous use, store at 0-5°C. 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.

* 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.

References

1. Luchter-Wasyl, E., and Ostrowski, W., Bio chim. Biophys. Acta, **265**, 349 (1974).
2. Hains, A.M.R., et al., Br. J. Cancer, **60**, 887 (1989).
3. Kamoshida, S., & Tsutsumi, Y., Hum. Pathol., **21**, 1108 (1990).