

Monoclonal Anti-Cytochrome P450 4F11 Clone F21P6F5

produced in mouse, purified immunoglobulin

Catalog Number **C4868**

Product Description

Monoclonal Anti-Cytochrome P450 4F11 (mouse IgG1 isotype) is derived from the hybridoma F21P6F5 produced by the fusion of mouse myeloma cells (Ag 8563) and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to amino acids 403-412 of human Cytochrome P450 4F11 (Gene ID: 57834), conjugated to ovalbumin.¹ The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-Cytochrome P450 4F11 (CYP4F11) reacts specifically with human cytochrome P450 4F11. Applications include ELISA,¹ immunoblotting, ~ 57 kDa,¹ and immunohistochemistry.¹

The super family of cytochrome P450 enzymes are heme containing mono oxygenases that in humans are involved with oxidative metabolism of xenobiotics. This metabolism is the initial step in the biotransformation and elimination of a wide variety of drugs and environmental pollutants from the body.² The cytochrome P450 family contains 57 members which are classified into subfamilies based on their nucleic acid homology. These proteins show different cell distributions and patterns of expression.³ The cytochrome P450 enzymes have an important role in cancer therapy. For example, in colon cancer, drug compounds like polycyclic aromatic hydrocarbons and heterocyclic amines require metabolic activation by cytochrome P450 enzymes before exerting their genotoxic effect.⁴ As a consequence, several therapeutic strategies are developed to exploit the presence, over expression and activity of cytochrome P450 enzymes in tumors, including cytochrome P450 vaccines, cytochrome P450-mediated pro-drug activation and cytochrome P450 inhibitors.

The CYP4 family of P450 enzymes consists of eleven subfamilies (CYP 4A-4M) that encode constitutive and inducible isozymes. This family can hydroxylate the terminal omega-carbon and the omega-1 position of saturated and unsaturated fatty acids, and omega-hydroxylation of various prostaglandins.⁵ The

expression of the CYP4 genes is dependent on peroxisome proliferator-activated receptor (PPAR) and its partner RXR.⁶ The CYP4F sub family is responsible for the regulation of the concentrations of eicosanoids during inflammation and the metabolism of clinically relevant drugs. CYP4F11 isoform has a high homology to CYP4F2, CYP4F3, and CYP4F8. It is expressed mainly in human liver and in kidney, heart and skeletal muscle.⁷ CYP4F11 catalyzes several drugs such as erythromycin, benzphetamine, ethylmorphine, chlorpromazine and imipramine.⁸

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~2 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For extended storage, freeze at -20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1-2 µg/mL is recommended using human recombinant CYP4F11-GST.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

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EK,CS,KAA,PHC 10/07-1