

Product Information

Monoclonal Anti-Fibrinogen, clone 85D4

produced in mouse, ascites fluid

Catalog Number **F9902**

Product Description

Monoclonal Anti-Fibrinogen (mouse IgG1 isotype) is derived from the 85D4 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. Human fibrin degradation products were used as the immunogen. The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Fibrinogen,⁵⁻⁶ a blood coagulation protein, is regarded as the central protein in the blood coagulation system. Fibrinogen of similar structure ($\text{A}\alpha, \text{B}\beta, \gamma$)₂ is found in all vertebrate species investigated with amino acid sequence conservation in a portion of the fibrinogen molecule. The complete amino acid sequences of the three chains (610, 461 and 411 residues) have been defined for human fibrinogen. In the coagulation process, fibrinogen with the structure ($\text{A}\alpha, \text{B}\beta, \gamma$)₂ is cleaved by thrombin, the fibrinopeptides A and B are then released and fibrin (α, β, γ)₂ is formed. Fibrin spontaneously aggregates into an insoluble gel which is then covalently stabilized by other blood factors. Despite these dramatic physical changes, fibrin retains 98% of the original covalent structure of fibrinogen and shares many epitopes with it. Thus, in most cases, antisera to fibrin cross-reacts strongly with fibrinogen and vice versa. Plasmin degradation of fibrinogen produces the intermediate fragments X and Y and the terminal fragments D and E. Low fibrinogen levels result in clinical evidence of impaired clotting time. Elevated fibrinogen levels are found in tissue necrosis and in malignancy. Pregnancy may be accompanied by a moderate rise in fibrinogen level as well. In addition, fibrinogen is regarded as an independent cardiovascular risk factor, since it has been found related to cardiovascular diseases. Monoclonal Anti-Fibrinogen may be used for the identification and quantitation of fibrinogen and fibrin.

Reagent

Supplied as ascites fluid with 15 mM sodium azide as a preservative.

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

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, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Specificity

Monoclonal Anti-Fibrinogen recognizes a conformational epitope which is destroyed by the cleavage of the γ (302-303) bond.¹⁻⁴ This epitope is found in both fibrinogen and in fibrin monomers, devoid of either fibrinopeptide A, or of both A and B fibrinopeptides, when they are immobilized on ELISA plates.¹ The antibody reacts with the D-dimer and D-fragment in ELISA and immunoblotting. It does not recognize individual fibrinogen/fibrin chains in the denatured-reduced form¹⁻² or their proteolytic fragments in immunoblotting. The E fragment is not recognized by the product.¹ Using electron microscopy, the antibody is more avid with protofibrils than with wider fibrin fibres.³ Cross-reactivity has been observed with human, baboon, bovine, sheep, goat, pig, rabbit and dog.

Product Profile

Indirect ELISA: a working dilution of 1:8,000 is determined using 10 µg/ml human fibrinogen for coating.

Note: In order to obtain best results, it is recommended that each individual user determine their working dilution by titration assay.

Uses

Monoclonal Anti-Fibrinogen may be used for the identification of fibrinogen and fibrin using ELISA, immunoblotting (native), dot-blotting and immunoelectron microscopy.

References

1. Dyr, J., et al., in: Thrombosis and Haemorrhagic Disorders., Sinzinger, H., and Vinazzer, H., (eds)., pp 166, Schmittand and Meyer (1989).
2. Dyr, J., et al., *Thromb. Res.*, **65**, Suppl. 1, S209 (1992).
3. Suttnar, J., et al., *Thromb. Haemost.*, **69**, 1156 (1993).
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5. Haverkate, F., et al., "Fibrinogen-Structure, Functional Aspects, Metabolism.," Walter de Gruyter, Berlin (1983).
6. Boucheix, C., et al., in: Protides of the Biological Fluids, Peeters, H. (ed.), **30**, pp 399, Pergamon Press, Oxford (1982).

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