

Product: Anti-Fibrinogen mAb, clone IF-1
Cat. No.: MC-900 (10 mg)

Background:

Fibrinogen is a blood-borne glycoprotein which following vascular injury is cleaved by thrombin to form fibrin, the most abundant component of blood clots. As well as controlling blood loss at sites of tissue damage, other properties of fibrinogen have recently been discovered. Various cleavage products of fibrinogen and fibrin, released during coagulation and fibrinolysis, respectively, regulate cell adhesion and spreading, display vasoconstrictor and chemotactic activities, and are mitogens for several cell types including fibroblasts, endothelial and smooth muscle cells.

Epitope:

Binds human fibrinogen (D-domain) in a calcium dependent manner. The dissociation constant is approximately 1.6×10^{-8} M at 2 mM Ca^{2+} . The antibody recognizes all three fragment D species present in plasmic digests of fibrinogen, indicating that the Ca^{2+} -dependent conformation of the D-domain recognized by this antibody is not directly related to the high affinity calcium binding site, putatively assigned to the g (311- 336) residue segment missing in fragment D3. Binding is not dependent on the sialylated oligosaccharide linked to B_ Asn-364.

Specificity:

Recognizes fibrinogen, fibrinogen plasmic fragments containing fragment D, and hereditary dysfibrinogens that elicit the Ca^{2+} -dependent conformation of the D-domain.

Species Reactivity:

Human. Others not tested.

Ig Isotype:

Mouse IgG1k

Immunogen:

A 92 kDa fragment of fibrinogen corresponding to plasmic fragment D.

Format:

Purified monoclonal antibody at 10 mg/mL in 50 mM Tris-HCl, 200 mM NaCl, pH 8.5. Antibody is purified from ascites by successive 50% ammonium sulphate precipitation, gel filtration and ion exchange chromatography. Purity is greater than 95% as determined by SDS-PAGE under non-reducing conditions.

Storage:

Store at -20°C or below. After initial thaw, aliquot to avoid freeze/thaw cycles.

Applications and Suggested Dilutions:

Immunoaffinity purification (protocol available). IF-1 is useful for immunoaffinity chromatography of normal and abnormal fibrinogens (including fibrinogen Marburg I) directly from citrated plasma depleted of the vitamin K-dependent proteins, or from heparinized plasma. Fibrinogen is eluted from immobilized antibody using mild conditions (removal of Ca²⁺ with EDTA), safeguarding structural and functional integrity. The need for deleterious ethanol, ammonium sulfate, or amino acid-dependent precipitation steps widely used in earlier techniques for purification of fibrinogen is eliminated. The antibody can also be used for the immunoaffinity purification of Ddomain fragments present in plasmic digests.

Western blot (Non-reducing conditions only) The optimal dilution for a specific application should be determined by the researcher.

Reference:

1. Takebe, M. et al (1995) Calcium iondependent monoclonal antibody against human fibrinogen: preparation, characterization, and application to fibrinogen purification. *Thrombosis and Haemostasis* **73**: 662-667.

Limitations:

For *in vitro* research use only. Not for use in diagnostics or in humans.

Warranty:

No warranties, expressed or implied, are made regarding the use of this product. KAMIYA BIOMEDICAL COMPANY is not liable for any damage, personal injury, or economic loss caused by this product.