ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Recombinant Human Fibrinogen

□ Cat. # FIBN25-R-10 Recombinant (HEK) purified Human Fibrinogen (Aa/Bb/G chains ~340 kda) >95% clottable
SIZE: 10 ug

Fibrinogen (factor I) is a soluble plasma glycoprotein, synthesized by the liver, that is converted by thrombin into fibrin during blood coagulation. Processes in the coagulation cascade activate the zymogen prothrombin to the serine protease thrombin, which is responsible for converting fibrinogen into fibrin. Fibrin is then cross linked by factor XIII to form a clot. FXIIIa stabilizes fibrin further by incorporation of the fibrinolysis inhibitors alpha-2-antiplasmin and TAFI (thrombin activatable fibrinolysis inhibitor, procarboxypeptidase B), and binding to several adhesive proteins of various cells. Both the activation of Factor XIII by thrombin and plasminogen activator (t-PA) are catalyzed by fibrin.

Human fibrinogen is a dimer consisting of two identical halves, each containing three different polypeptides: alpha-chain (63.5 kDa), beta-chain (56 kDa), and gamma-chain (47 kDa). The three polypeptides are joined together by disulfide bonds. At the N-terminus, the three chains are linked together by a dimeric disulfide knot (DSK), which results in a configuration of α, b, g). Fibrinogen is a glycoprotein containing approximately 4% carbohydrate. The concentration in blood plasma is 1.5-4.0 g/L or about 7 μM. In its natural form, fibrinogen can form bridges between platelets, by binding to their GpIIb/IIIa surface membrane proteins; however its major function is as the precursor to fibrin. Fibrinogen is a hexamer containing two sets of three different chains (α, β, and γ), linked to each other by disulfide bonds. On the fibrinogen α and β chains, there is a small peptide sequence (called a fibrinopeptide). These small peptides are what prevent fibrinogen from spontaneously forming polymers with itself.

Source of Antigen

Recombinant Human Fibrinogen produced in HEK cells is comprised from the Aa chain (ACC# P02671), Bb chain (ACC# P02675) and g chain (ACC# P02679), having a total molecular weight of 340kDa. The Fibrinogen is purified by proprietary chromatographic techniques.

It is supplied in as solution (1 mg/ml or or see lot sp. conc on the vial) contains 20mM Tris-HCl (pH7.4) and 154mM NaCl.

Store frozen at -20°C to -80°C for long periods of time. Avoid multiple freeze-thaw cycles.

Biological activity

>95% clottable. Clottability of the purified fibrinogens was determined as mixing human a-thrombin (final concentration 0.1 U/ml) and fibrinogen (final concentration 0.45 mg/ml) in 20mM Tris-HCl (pH7.4), 154mM NaCl, and 10mM CaCl2. Samples were incubated for 18 h at room temperature, and fibrin clot or fibrin aggregates were removed by centrifugation at 13000 × g for 15 min. Fibrin that was not incorporated into the pellet was determined from the A280 of the supernatant, and clottability was calculated as (A280 at zero time - A280 of the supernatant)/ (A280 at zero time) × 100%. No correction was made for absorbance from the added thrombin

General References: **M**uszbek L (2008) Cardiovascular & Hematological Agents in Medicinal Chemistry 6 (3): 190–205; Fries D (2009) Current Opinion in Anaesthesiology 22 (2): 267–74; Hermans J (1982) Semin. Thromb. Hemost. 8, 11-24

Related material available from ADI

Catalog#	ProdDescription
AD-116-B	Fibrinogen (Ap90), DNA Aptamer, Biotinylated
AD-116-F	Fibrinogen (Ap90), DNA Aptamer, FITC labeled
AD-116-U	Fibrinogen (Ap90), DNA Aptamer, unlabeled
FIBN11-A	Anti-Human Plasma Fibrinogen IgG
FIBN11-BT	Anti-Human Plasma Fibrinogen IgG, Biotin conjugate
FIBN11-HRP	Anti-Human Plasma Fibrinogen IgG, HRP conjugate
FIBN12-A	Anti-Rat Fibrinogen, IgG, aff pure
FIBN13-M	Monoclonal Anti-Human Plasma Fibrinogen, ascites
FIBN14-A	Anti-Human+Mouse Fibrinogen IgG/Y
FIBN15-N-10	Human Plasma Fibrinogen purified, >90%
FIBN16-N-50	Human plasma Fibrinogen fragment D,purified, >90%
FIBN17-N-50	Human plasma Fibrinogen fragment E,purified, >90%
FIBN18-N-100	Mouse plasma Fibrinogen,purified, >90% clottable
FIBN19-N-100	Rat plasma Fibrinogen,purified, >90% clottable
FIBN25-R-10	Recombinant (HEK) purified Human Fibrinogen (Aa/Bb/G chains ~340 kda) >95% clottable
MA-20348	Mouse Monoclonal Antibody to Fibrinogen beta chain (FGB)
SP-52245-1	Fibrinogen γ-chain dodecapeptide [His-his-Leu-Gly-Gly-Ala-Lys-Gln-Ala-Gly-Asp-Val-OH; MW: 1189.29]
SP-52246-5	Fibrinogen-binding Peptide [Glu-His-Ile-Pro-Ala-OH; MW: 565.63]
SP-88462-1	Fibrinogen β-Chain (24-42) (AA: Glu-Glu-Ala-Pro-Ser-Leu-Arg-Pro-Ala-Pro-Pro-Pro-Ile-Ser-Gly-Gly-Gly-Tyr-Arg) (MW: 1951.19)
SP-88463-1	Fibrinogen Related Peptide (AA: Gly-Gln-Gln-His-His-Leu-Gly-Gly-Ala-Lys-Gln-Ala-Gly-Asp-Val) (MW: 1502.62)
SP-88975-1	Fibrinogen γ - Chain (117 - 133) (AA: Asn-Asn-Gln-Lys-Ile-Val-Asn-Leu-Lys-Glu-Lys-Val-Ala-Gln-Leu-Glu-Ala) (MW: 1939.26)

*This product is for In vitro research use only.

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