Fibrinogen from human plasma

Product Number  F 4883
Storage Temperature  −0 °C

Product Description
CAS Number:  9001-32-5
Molecular Weight:  340 kDa
Extinction Coefficient:  E₁%= 15.1 (280 nm)
Stoke’s Radius:  10.7 nm

Human fibrinogen is a dimer consisting of two identical halves, each containing three different polypeptides: α-chain (63.5 kDa), β-chain (56 kDa), and γ-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 αA, βB, and γC. Fibrinogen is a glycoprotein containing approximately 4% carbohydrate.¹

The normal concentration range of fibrinogen in human plasma is 200-450 mg/100 ml of plasma. Fibrinogen activation by thrombin during blood clotting involves the proteolytic release of two negatively charged fibrinopeptides. Fibrinopeptide A is released from the α-chain and fibrinopeptide B from the β-chain. The removal of fibrinopeptide A is necessary for the polymerization of fibrin to occur. Release of fibrinopeptide B occurs more slowly and may be responsible for lateral aggregation. The fibrin clot is then stabilized and strengthened by transglutaminase, which introduces γ-glutamyl-ε-lysine crosslinks between amino acid side chains.¹

In general, fibrinogen from any mammalian source will cross-react with thrombin from any mammalian source. When any mammalian thrombin is injected into a different animal, clotting will occur.

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
Fibrinogen can be solubilized in 0.85% (w/v) sodium chloride (2 mg/ml) by layering the protein on top of the saline solution and placing it in a 37 °C water bath for 4-6 hours, with gentle agitation.

Storage/Stability
Fibrinogen solutions may be sterile filtered through a 0.22 µm filter, some positive pressure may be required. Sterile filtered fibrinogen solutions are stable for approximately 1 week at 4 °C.

References

TMG/JRC  10/02