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Product Information

Fibrinogen
from human plasma

Catalog Number **F3879**
Storage Temperature –20 °C

CAS RN 9001-32-5

Product Description

Molecular mass: ~340 kDa
λ_{max} = 280 nm
Extinction coefficient: $E^{1\%}$ = 15.1 (solvent not given)

Fibrinogen, or Factor I, is a blood protein that is involved in clotting and is converted to fibrin by thrombin. Fibrinogen has an approximate molecular mass of 340 kDa. It consists of three non-identical pairs of disulfide-bonded chains.[1-5] The α-chain has an approximate molecular mass of 63.5 kDa, the β-chain 56 kDa, and the γ-chain 47 kDa. At the amino termini, the three chains are connected in a dimeric disulfide knot (DSK). A second DSK occurs later in the molecule. Fibrinogen has ~4% carbohydrate content. The Stokes radius for human fibrinogen is 10.7 nm.[6]

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 mammal, clotting will occur.

Precautions and Disclaimer

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

Preparation Instructions

The optimal way to solubilize fibrinogen is to layer it on top of warm (37 °C) saline; fibrinogen will not dissolve in water. The saline concentration can be in the range of 0.85–0.9%. The fibrinogen-saline solution can be gently agitated, but it must not be vortexed. The fibrinogen will slowly dissolve to give a hazy solution. Fibrinogen may be sterile-filtered, but may not go through a 0.1 μm filter; a 0.2 μm filter is suggested, with positive pressure using a syringe and "button" filter. Vacuum filtration should not be used, since this will lead to breakdown of the molecule during the filtration.

Storage/Stability

Store the product at –20 °C.

After sterile filtration, stock solutions of fibrinogen at 2.5 mg/ml may be stored refrigerated for ~1 week.

References

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4. Blomback, M. et al., Fibrinogen Detroit--a Molecular Defect in the N-terminal Disulphide Knot of Human Fibrinogen? Nature, **218(137)**, 134-137 (1968).
5. Takagi, T., and Doolittle, R.F., Amino Acid Sequence Studies on Plasmin-derived Fragments of Human Fibrinogen: Amino-terminal Sequences of Intermediate and Terminal Fragments. Biochemistry, **14(5)**, 940-946 (1975).
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