



Polyclonal Antisera:

Anti-Human Factor I

For **Research Use Only**. Not for use in diagnostic procedures

Background

Factor I is a serine protease which circulates in the plasma and is synthesized primarily in the liver. This glycoprotein has a total approximate molecular weight of 88 kD. It is composed of two chains (50 kD and 38 kD) that are linked together by a disulfide bond. The concentration of this protein in normal plasma is approximately 34 µg/mL. In the complement system, Factor I cleaves and inactivates C3b, C4b, and modified forms of C3 and C4. This cleavage can only happen in the presence of protein cofactors such as Factor H, CR1, and C4 binding protein (C4BP). Factor I is only considered to be active in the presence of these cofactors.

Common serine protease inhibitors such as DFP, PMSF, Benzamidine, TLCK or soybean trypsin inhibitor do not completely inhibit the action of Factor I. Additionally, metal ion chelators such as EDTA do not affect binding of the cofactors or the activity of Factor I.

Factor I has two key roles in the complement system: To irreversibly inactivate C3b and C4b in free solution or on target surfaces and C3 (H₂O) and C4 (H₂O) in fluid phase, and to generate a series of C3 or C4 fragments during Factor I mediated cleavage that can interact with a variety of cellular components and lead to phagocytosis.

Characterization

Highly purified human Factor I was isolated from normal serum and used to immunize goats. The Anti-human Factor I was tested against normal human plasma by double immunodiffusion, one-dimensional immunoelectrophoresis, quantitative radial immunodiffusion, and quantitative rocket immunoelectrophoresis. The antisera was determined to be monospecific for Factor I at varying concentrations.

Applications

Applications of the Factor I polyclonal antisera have been evaluated by various research facilities, and include Western Blot,^{1,2} ELISA.³

Specifications

- Volume/vial: 2.0 mL
- Storage: 2°C to 8°C* (≤ 30 days)
- Form: Whole Antiserum
- Preservative: ≤ 0.1% Sodium Azide

Species Cross Reactivity:

- Baboon, Mouse

*For long term storage (> 30 days), aliquot and store at ≤ -20°C. Avoid repeated freeze/thaw.

References

¹Chang, N.S., et al. Regulation of Complement Functional Efficiency by Histidine-Rich Glycoprotein. *The Am. Society of Hematology* (1992): 2973-2980.

²Rose, K., et. al. Factor I is required for the development of membranoproliferative glomerulonephritis in factor H deficient mice. *J. of Clin.*

Investigation (2008): 608-618.

³Gonzalez-Rubio, C., et al. Complement Factor I Deficiency Associated with Recurrent Meningitis Coinciding with Menstruation. *Archives of Neurology* (2001): 1923-1928.

Also available:

MoAbs: Anti-Human Factor I #1 – Cat. #A247

Factor I Protein – Cat. #A411

Anti-Human Factor I #2 – Cat. #A231

