

****REPRESENTATIVE DATASHEET******Sheep anti-human Factor XIII (F.XIII)**

Whole IgG from antiserum
10 mg

Product #: SAFXIII-IG-ASR

Lot #: XXXX

Expiry date: XXXX

DOM: XXXX

Store at -10 to -20°C

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Analyte Specific Reagent.

Analytical and performance characteristics are not established.

Description of Factor XIII (F.XIII)

Factor XIII (F.XIII, fibrin stabilizing factor) is the proenzyme form of a transamidase that is essential for normal haemostasis and fibrinolysis, wound healing, female fertility and foetal development. Extracellular F.XIII consists of A subunits (83 kDa each) which contain the enzyme moiety, and B subunits (76 kDa each) which act as a carrier protein for the A subunit in circulation. Both subunits are produced under separate genetic control. In plasma, F.XIII exists as a non-covalent tetrameric complex (320 kDa) of two A-subunits and two B-subunits (A₂B₂). The concentration of F.XIII tetramer in plasma is ~25 µg/ml (~80 nM). An intracellular form of F.XIII is found in platelets, megakaryocytes and monocytes. This form of F.XIII presents as a dimer of two A-subunits only and has a molecular weight of 160 kDa. The importance of these intracellular stores is demonstrated by the observation that platelets can contribute up to half of the F.XIII activity in platelet rich plasma. The activation of F.XIII involves several steps. Thrombin cleaves after Arg³⁷ of each A-subunit in the A₂B₂ tetramer, releasing a 4.5 kDa activation peptide. Additional conformational changes induced by the binding of calcium, and by dissociation of the B-subunits from the A-subunit dimer are required to obtain full enzyme activity. F.XIIIa is a cysteine protease that catalyses the formation of γ-glutamyl-ε-lysyl bonds between the γ and α chains of polymerised fibrin molecules. Other proteins found crosslinked into fibrin clots by F.XIIIa include fibrinogen, α₂antiplasmin, fibronectin, vitronectin and von Willebrand factor¹⁻³.

REFERENCES and REVIEWS

1. McDonagh J; Structure and Function of Factor XIII; in Hemostasis and Thrombosis, 3rd Edition, eds. RW Colman, J Hirsh, VJ Marder and EW Salzman, pp 301-313, J.B. Lippincott Co., Philadelphia PA, USA, 1994.
2. Inbal A, Muszbek L; Coagulation Factor Deficiencies and Pregnancy Loss; Seminars in Thrombosis and Haemostasis 29, pp 171-174, 2003.
3. Murdock PJ, Owens DL, Chitolie A, Hutton RA, Lee CA; Development and Evaluation of ELISAs for Factor XIIIa and XIIIb Subunits in Plasma; Thrombosis Research 67, pp 73-79, 1992.

Product Specifications**Description:**

Vial containing XXXX ml of whole IgG representing approximately 1 ml of antiserum. Total protein is 10 mg.

Format:

Whole IgG, clear liquid.

Host Animal:

Sheep

Immunogen:

Human Factor XIII (A₂B₂) purified from plasma.

Concentration:

IgG concentration is XXXX mg/ml, determined by absorbance using an extinction coefficient (E^{1%₂₈₀}) of 13.4.

Buffer:

10 mM HEPES, pH 7.4, 150 mM NaCl, 50% (v/v) glycerol.

Storage:

Store between -10 and -20°C. Product will become viscous but will not freeze. Avoid storage in frost-free freezers. Keep vial tightly capped. Allow product to warm to room temperature and gently mix before use.

Specificity:

This antibody is specific for Factor XIII as demonstrated by immunoelectrophoresis and ELISA.

Precautions:

Unused solution should be disposed of according to local, State and Federal regulations. For a Material Safety Data Sheet for this product contact Affinity Biologicals Inc.

Visit our website (www.affinitybiologicals.com) for other related products.

Limited Warranty: This product is warranted to perform in accordance with its labeling and literature. Affinity Biologicals Inc. disclaims any implied warranty of merchantability or fitness for any other purposes, and in no event will Affinity Biologicals Inc. be liable for any consequential damages arising out of aforesaid express warranty.

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