



## Sheep anti-human Fibrinopeptide A (FPA)

Whole IgG from antiserum

10 mg

**Product #:** SAFPA-IG

**Lot #:** XXXX

**Expiry date:** XXXX

Store at -10 to -20°C

For Research Use Only.

Not for use in diagnostic procedures.

### Description of Fibrinogen (Fg)

Fibrinogen is an abundant plasma protein (5-10 µM) produced in the liver. The intact protein has a molecular weight of 340 kDa and is composed of 3 pairs of disulphide-bound polypeptide chains named  $\alpha$ ,  $\beta$  and  $\gamma$ . Fibrinogen is a triglobular protein consisting of a central E domain and terminal D domains. Proteolysis by thrombin results in release of Fibrinopeptide A (FPA,  $\alpha$ 1-16) followed by Fibrinopeptide B (FPB,  $\beta$ 1-14) and the fibrin monomers that result polymerize in a half-overlap fashion to form insoluble fibrin fibrils. The chains of fibrin are referred to as  $\alpha$ ,  $\beta$  and  $\gamma$ , due to the removal of FPA and FPB. The polymerised fibrin is subsequently stabilized by the transglutaminase activated Factor XIII that forms amide linkages between  $\gamma$  chains and, to a lesser extent,  $\alpha$  chains of the fibrin molecules. Proteolysis of fibrinogen by plasmin initially liberates C-terminal residues from the  $\alpha$  chain to produce fragment X (intact D-E-D, which is still clottable). Fragment X is further degraded to non-clottable fragments Y (D-E) and D. Fragment Y can be digested into its constituent D and E fragments. Digestion of non-crosslinked fibrin with plasmin is very similar to the digestion of fibrinogen, which results in production of fragments D and E. Degradation of crosslinked fibrin by plasmin results in fragment DD (D-Dimer consisting of the D domains of 2 fibrin molecules crosslinked via the  $\gamma$  chains), fragment E (central E domain) as well as DDE in which fragment E is non-covalently associated with DD. For human crosslinked fibrin, the relative weights of the cleavage fragments produced are: 184 kDa for fragment DD, 92 kDa for D, 50 kDa for E, 1.54 kDa for FPA and 1.57 kDa for FPB<sup>1-3</sup>.

### REFERENCES and REVIEWS

1. Hantgan RR, Francis CW, Marder VJ; Fibrinogen Structure and Physiology; in Hemostasis and Thrombosis, 3<sup>rd</sup> Edition, eds. RW Colman, J Hirsh, VJ Marder and EW Salzman, pp 277-300, J.B. Lippincott Co., Philadelphia PA, USA, 1994.
2. Shafer JA, Higgins DL; Human Fibrinogen; CRC Critical Reviews in Clinical Laboratory Sciences 26, pp 1-41, 1988.
3. Binnie CG, Lord ST; The Fibrinogen Sequences that Interact with Thrombin; Blood 81, pp 3186-3192, 1993.

### 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:

Synthetic fibrinopeptide  $\alpha$ 1-16 conjugated to carrier.

#### 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 fibrinopeptide A as demonstrated by immunoelectrophoresis and ELISA.

#### Applications:

Suitable as a source of antibodies to human fibrinopeptide A.

#### Neutralizing activity:

Not determined.

#### Species Cross Reactivity: (immunodiffusion vs. citrated plasma)

Not determined.