REPRESENTATIVE DATA SHEET

Sheep anti-human Fibrinogen (Fg)

Peroxidase Conjugated IgG
0.2 mg

Product #: SAFG-HRP
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 Aα, Bβ and γ. 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, Aα1-16) followed by Fibrinopeptide B (FPB, Bβ1-14) 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 α, β and γ, 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 γ chains and, to a lesser extent, α chains of the fibrin molecules. Proteolysis of fibrinogen by plasmin initially liberates C-terminal residues from the Aα 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 γ 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[1-3].

REFERENCES and REVIEWS

1. Hantgan RR, Francis CW, Marder VJ; Fibrinogen Structure and Physiology; in Hemostasis and Thrombosis, 3rd 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 conjugated to horseradish peroxidase (HRP) through carbohydrate groups. Total protein is 0.2 mg.

Format:
IgG-HRP conjugate as a clear, slightly red-brown liquid.

Host Animal:
Sheep

Immunogen:
Human fibrinogen purified from plasma.

Concentration:
IgG-HRP concentration is XXXX mg/ml, determined by absorbance using an extinction coefficient ($E^{1\%}_{280}$) of 14.

Buffer:
A buffered stabilizer solution containing 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. Avoid exposure to sodium azide as this is an inhibitor of peroxidase activity.

Specificity:
Prior to conjugation, this antibody was specific for fibrinogen as demonstrated by immunoelectrophoresis and ELISA.

Applications:
Suitable as a source of peroxidase labeled antibodies to Fg.

Rz Ratio (Reinheitszahl, A_{403}/A_{280}):
XXXX as determined spectrophotometrically.