COA CHROM DIAGNOSTICA

Goat anti-human α_2Antiplasmin (α_2AP)

Peroxidase Conjugated IgG

0.2 mg

Product #: GA2AP-HRP

Lot #: XXXX

Expiry date: XXXX

Store at –10 to -20°C

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

Description of α_2Antiplasmin (α_2AP)

α_2Antiplasmin (α_2AP), also known as α_2Plasmin Inhibitor (α_2PI), is a member of the SERPIN family of proteinase inhibitors and the primary inhibitor of the enzyme plasmin in blood. It is produced in the liver and circulates in plasma at ~70 µg/ml (~1 µM). α_2AP is a single chain molecule with a mass of 67 kDa as determined by SDS-PAGE. The primary target enzyme for α_2AP is plasmin, but α_2AP also acts as secondary or "backup" inhibitor of activated F.XI, activated Protein C and trypsin. Inhibition of these enzymes by α_2AP occurs by proteolytic cleavage after Arg^{364} with subsequent rapid formation of a stable, inactive 1:1 enzyme-α_2AP complex. α_2AP also acts to regulate fibrinolysis by binding to the lysine binding sites on plasminogen thus competitively inhibiting plasminogen binding to fibrin. About 30% of α_2AP present in plasma is partially degraded and lacks a peptide in the carboxyl region that contains the plasminogen-binding site. This form of α_2AP (~65 kDa) has a reduced rate of plasmin inhibition and has been referred to as the "slow form" of α_2AP. During fibrin formation, a portion of circulating α_2AP is cross-linked to the α-chain of fibrin by activated factor XIII, and this linking of plasmin inhibitor to the plasmin substrate provides an additional measure of protection to the fibrin clot from proteolysis by plasmin[1-4].

REFERENCES and REVIEWS

1. Aoki N, Suni Y, Miura O, Hirosawa S; Human α_2Plasmin Inhibitor; Methods in Enzymology, 223, pp 185-197, 1993.

2. Shieh BH, Travis J; The Reactive Site of Human α_2-Plasmin Inhibitor ; JBC 262, pp 6055-6059, 1987.

3. Moroi M, Aoki N; Isolation and Characterization of α_2-Plasmin Inhibitor from Human Plasma; JBC 251, pp 5956-5965, 1976.

4. Harpel PC; Blood Proteolytic Enzyme Inhibitors: Their Role in Modulating Blood Coagulation and Fibrinolytic Enzyme Pathways; in Hemostasis and Thrombosis, eds. RW Colman, J Hirsh, VJ Marder and EW Salzman, pp. 738-747, J.B. Lippincott Co., Philadelphia PA, USA, 1982.

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:
Goat

Immunogen:
Human $\alpha_2$antiplasmin 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 human α_2AP as demonstrated by immunoelectrophoresis and ELISA.

Applications:
Suitable as a source of peroxidase-labeled antibodies to α_2AP.

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