

Goat anti-human α_2 Antiplasmin (α_2 AP)

Affinity-Purified IgG

0.5 mg

Product #: GA2AP-AP

Lot #: XXXX

Expiry date: XXXX

Store at -10 to -20°C

For Research Use Only.

Not for use in diagnostic procedures.

Description of α_2 Antiplasmin (α_2 AP)

α_2 Antiplasmin (α_2 AP), also known as α_2 Plasmin Inhibitor (α_2 PI), 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 μ g/ml (~1 μ M). α_2 AP is a single chain molecule with a mass of 67 kDa as determined by SDS-PAGE. The primary target enzyme for α_2 AP is plasmin, but α_2 AP also acts as secondary or "backup" inhibitor of activated F.XI, activated Protein C and trypsin. Inhibition of these enzymes by α_2 AP occurs by proteolytic cleavage after Arg³⁶⁴ with subsequent rapid formation of a stable, inactive 1:1 enzyme- α_2 AP complex. α_2 AP 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_2 AP present in plasma is partially degraded and lacks a peptide in the carboxyl region that contains the plasminogen-binding site. This form of α_2 AP (~65 kDa) has a reduced rate of plasmin inhibition and has been referred to as the "slow form" of α_2 AP. During fibrin formation, a portion of circulating α_2 AP 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 plasmin¹⁻⁴.

REFERENCES and REVIEWS

1. Aoki N, Suni Y, Miura O, Hirosawa S; Human α_2 Plasmin 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 IgG purified by affinity-chromatography on immobilized α_2 AP. Total protein is 0.5 mg.

Format:

Affinity-purified IgG (APlgG), clear liquid.

Host Animal:

Goat

Immunogen:

Human α_2 antiplasmin purified from plasma.

Concentration:

APlgG 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 α_2 AP as demonstrated by immunoelectrophoresis and ELISA.

Applications:

Suitable as a source of enriched antibodies to human α_2 AP.

Neutralizing activity:

Not determined

Species Cross Reactivity: (immunodiffusion vs. citrated plasma)

Human:	XXXX	Mouse:	XXXX	Rat:	XXXX
Rabbit:	XXXX	Pig:	XXXX	Dog:	XXXX