



## Goat anti-human $\alpha_2$ Antiplasmin ( $\alpha_2$ AP)

Affinity-Purified IgG

0.5 mg

**Product #:** GA2AP-AP

**Lot #:** XXXX

**Expiry date:** XXXX

**Store at -10 to -20°C**

1395 Sandhill Drive, Ancaster, Ontario, Canada L9G 4V5  
905-304-9896 • 800-903-6020 • fax 905-304-9897

For Research Use Only.

Not for use in diagnostic procedures.

### Description of $\alpha_2$ Antiplasmin ( $\alpha_2$ AP)

$\alpha_2$ Antiplasmin ( $\alpha_2$ AP), also known as  $\alpha_2$ Plasmin Inhibitor ( $\alpha_2$ 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  $\mu$ g/ml (~1  $\mu$ M).  $\alpha_2$ AP is a single chain molecule with a mass of 67 kDa as determined by SDS-PAGE. The primary target enzyme for  $\alpha_2$ AP is plasmin, but  $\alpha_2$ AP also acts as secondary or “backup” inhibitor of activated F.XI, activated Protein C and trypsin. Inhibition of these enzymes by  $\alpha_2$ AP occurs by proteolytic cleavage after Arg<sup>364</sup> with subsequent rapid formation of a stable, inactive 1:1 enzyme- $\alpha_2$ AP complex.  $\alpha_2$ 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  $\alpha_2$ AP present in plasma is partially degraded and lacks a peptide in the carboxyl region that contains the plasminogen-binding site. This form of  $\alpha_2$ AP (~65 kDa) has a reduced rate of plasmin inhibition and has been referred to as the “slow form” of  $\alpha_2$ AP. During fibrin formation, a portion of circulating  $\alpha_2$ AP is cross-linked to the  $\alpha$ -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<sup>1-4</sup>.

### REFERENCES and REVIEWS

1. Aoki N, Suni Y, Miura O, Hirose S; Human  $\alpha_2$ Plasmin Inhibitor; *Methods in Enzymology*, 223, pp 185-197, 1993.
2. Shieh BH, Travis J; The Reactive Site of Human  $\alpha_2$ -Plasmin Inhibitor; *JBC* 262, pp 6055-6059, 1987.
3. Moroi M, Aoki N; Isolation and Characterization of  $\alpha_2$ -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  $\alpha_2$ AP. Total protein is 0.5 mg.

**Format:**

Affinity-purified IgG (APIgG), clear liquid.

**Host Animal:**

Goat

**Immunogen:**

Human  $\alpha_2$ antiplasmin purified from plasma.

**Concentration:**

APIgG 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  $\alpha_2$ AP as demonstrated by immunoelectrophoresis and ELISA.

**Applications:**

Suitable as a source of enriched antibodies to human  $\alpha_2$ AP.

**Neutralizing activity:**

Not determined

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

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

**Related Products:**

- Cat #: **GA2AP-IG** Goat anti-human  $\alpha_2$ AP, whole IgG from antiserum
- Cat #: **GA2AP-HRP** Goat anti-human  $\alpha_2$ AP, IgG-peroxidase conjugate
- Cat #: **SA2AP-IG** Sheep anti-human  $\alpha_2$ AP, whole IgG from antiserum
- Cat #: **SA2AP-AP** Sheep anti-human  $\alpha_2$ AP, affinity purified IgG
- Cat #: **A2AP-DP** Plasma deficient in  $\alpha_2$ AP, immune-depleted

Visit our site ([www.affinitybiologicals.com](http://www.affinitybiologicals.com)) for details.

**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.

Manufactured in Canada by:  
**AFFINITY BIOLOGICALS INC.**  
1395 Sandhill Drive  
Ancaster ON CANADA L9G 4V5  
Tel: (905) 304-9896  
(800) 903-6020  
Fax: (905) 304-9897  
[info@affinitybiologicals.com](mailto:info@affinitybiologicals.com)