

**Sheep Anti-Human Protein C (PC)
Affinity-Purified
0.5 mg**

Catalogue: SAPC-AP
Lot No: SAMPLE
Expiry date: **/****
Store at -10 to -20°C.

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

Description of Protein C (PC)

Protein C (PC) is a vitamin K-dependent glycoprotein in the liver. The concentration of PC in plasma is ~4 µg/mL (~60 nM). A deficiency of Protein C (quantitative or qualitative) is a risk factor for vascular thrombosis. Protein C is expressed as a two-chain molecule with a molecular weight of 62 kDa. The light chain (21 kDa) of PC consists of two EGF-like domains and an amino-terminal domain containing one hydroxyaspartic acid and eleven γ-carboxyglutamic acid (gla) residues. These residues allow PC to bind to membranes that contain acidic phospholipids in a calcium dependent manner. The heavy chain of PC (41 kDa) consists of the catalytic domain and an activation peptide. Activation of Protein C results from cleavage at residue Arg¹² in the heavy chain by a complex of thrombin and a cell surface cofactor thrombomodulin. The activation of PC is associated with the release of a small activation peptide (2-3 kDa, called Protein C peptide, or PCP) from the N-terminal of the heavy chain. Activated Protein C (APC) is a serine protease with anticoagulant activity. APC, in complex with a phospholipid membrane, calcium and the Protein S cofactor, exhibits anticoagulant activity through the proteolytic inactivation of coagulation cofactors Va and VIIIa. The primary inhibitor of APC activity in plasma is Protein C Inhibitor (PCI, also called Plasminogen Activator Inhibitor-3, PAI-3) and to a lesser extent by α₁-antitrypsin and α₂-macroglobulin. The inhibitory activity of PCI is stimulated approximately 10 fold by heparin¹⁻³.

References and Reviews

1. Broze GJ, Miletich JP; Biochemistry and Physiology of Protein C, Protein S and Thrombomodulin; in Haemostasis and Thrombosis, 3rd Edition, eds. RW Coleman, J Hirsh, VJ Marder and EW Salzman, pp 259-276, J.B. Lippincott Co., Philadelphia PA, USA, 1994.
2. Esmon CT, Esmon NL, Le Bonniec B, Johnson AE; Protein C Activation; Methods in Enzymology **222**, pp 359-385, 1993.
3. Heeb MJ, Moshe D, Griffin JH; Activation and Complexation of

Protein C and Cleavage and Decrease of Protein S in Plasma of Patients With Intravascular Coagulation; Blood **73**, pp 455-461, 1989.

Product Specifications

Description:

Vial containing 0.250 mL of whole IgG purified by affinity-chromatography on immobilized PC. Total protein is 0.5 mg.

Format:

Affinity-purified IgG (APIgG), clear liquid.

Host Animal:

Sheep

Immunogen:

Human Protein C purified from plasma.

Concentration:

APIgG concentration is 2.00 mg/ml, determined by absorbance using an extinction coefficient (E₂₈₀^{1%}) 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 Protein C as demonstrated by immunoelectrophoresis and ELISA.

Applications:

Suitable as a source of enriched antibodies to human PC.

Neutralizing Activity:

Not determined.

Related Products

GAPC-IG	Goat Anti-Human PC, whole IgG from antiserum
GAPC-AP	Goat Anti-Human PC, affinity purified IgG
SAPC-IG	Sheep Anti-Human PC, IgG from antiserum
SAPC-HRP	Sheep Anti-Human PC, IgG-Peroxidase
MAPC-IG	Murine Anti-Human PC, IgG from ascites
PC-EIA	Paired antibody set for ELISA of PC, 5 x 96 wells
APCAT-EIA	Paired antibody ELISA APC-α ₁ AT, 5 x 96 wells
APCPCI-EIA	Paired antibody ELISA of APC-PCI, 5 x 96 wells
PC-DP	Human plasma deficient in PC, immune depleted

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