

Sheep anti-human Prekallikrein (PK)

Whole IgG from antiserum
10 mg

Product #: SAPK-IG
Lot #: XXXX
Expiry date: XXXX

Store at -10 to -20°C

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

Description of Prekallikrein (PK)

Prekallikrein (PK), previously known as Fletcher Factor, is a single chain glycoprotein produced in the liver. The plasma concentration of PK is 50 µg/ml (550 nM), approximately 75% of which circulates in complex with high molecular weight kininogen (HK) and the remainder as free PK. Plasma PK is heterogeneous in both mass and charge due to variable degrees of glycosylation. Approximately 90% of plasma PK has an apparent molecular weight of 88 kDa as determined by SDS-PAGE and the remaining 10% has an apparent mass of 85 kDa. The catalytic site resides in the light chain. The heavy chain of PK contains four apple-domain structures similar to those found in FXI and these are required for binding of PK to HK. PK is the zymogen form of the enzyme kallikrein, which is involved in the proteolysis of kininogens with subsequent release of bradykinin, a potent vasodilator. PK participates in the contact phase of coagulation as a substrate for surface-bound activated factor XII (FXIIa) in the presence of the cofactor HK. As PK and factor XI (FXI) both circulate in complex with HK, both are localized to activating surfaces through their respective binding to HK. Limited proteolysis of PK by FXIIa generates kallikrein, a two-chain serine protease that initiates the reciprocal activation of PK and FXI. Kallikrein activity in plasma is regulated predominantly by C1-Inhibitor and α₂macroglobulin, with relatively minor contributions by Protein C Inhibitor, α₂antiplasmin, and antithrombin¹⁻³.

REFERENCES and REVIEWS

1. Coleman RW, Schmaier AH; Contact System: A Vascular Biology Modulator With Anticoagulant, Profibrinolytic, Antiadhesive and Proinflammatory Attributes. *Blood* 90, pp 3819-3843, 1997.
2. DeLa Cadena R, Watchtfoegel YT, Colman RW, in Hemostasis and Thrombosis, 3rd Edition, eds. RW Colman, J Hirsh, VJ Marder and EW Salzman, pp. 219-240, J.B. Lippincott Co., Philadelphia, 1994.
3. Hojima Y, Pierce JV, Pisano JJ; Purification and Characterization of Multiple Forms of Human Plasma Prekallikrein. *JBC* 260, pp 400-406, 1985.

Product Specifications

Description:

Vial containing XXXX ml of whole IgG representing approximately 1 ml of antiserum. Total protein is 10 mg.

Format:

Whole IgG, clear liquid.

Host Animal:

Sheep

Immunogen:

Human active site-blocked kallikrein prepared from plasma.

Concentration:

IgG 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 prekallikrein as demonstrated by immunoelectrophoresis and ELISA.

Applications:

Suitable as a source of antibodies to human prekallikrein.

Neutralizing activity:

Not determined

Species Cross Reactivity: (immunodiffusion vs. citrated plasma)

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