



Sheep anti Human Prothrombin polyclonal antibody (CABT-L402)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Specificity	This antibody is specific for prothrombin as demonstrated by immunoelectrophoresis and ELISA.
Target	Prothrombin
Immunogen	Human prothrombin purified from plasma.
Isotype	IgG
Source/Host	Sheep
Species Reactivity	Human, Rat, Mouse, Rabbit, Canine, Porcine
Purification	Affinity purified
Conjugate	Unconjugated
Applications	Suitable for use in IEP, ELISA. Each laboratory should determine an optimum working titer for use in its particular application. Other applications have not been tested but use in such assays should not necessarily be excluded.
Format	Liquid
Size	0.5 mg
Buffer	10 mM HEPES, pH 7.4, 150 mM NaCl, 50% (v/v) glycerol.
Preservative	None
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.

BACKGROUND

Introduction

Prothrombin (factor II, F.II) is a vitamin K-dependent glycoprotein produced in the liver. The concentration of prothrombin in plasma is ~100 µg/ml (~1.4 µM). Prothrombin is a single chain molecule with a molecular weight of 72 kDa. Prothrombin consists of a catalytic domain followed by two kringle structures and an amino-terminal domain containing 10 γ-carboxy-glutamic acid (gla) residues. These gla residues allow prothrombin to bind to membranes that contain acidic phospholipids in a calcium dependent manner. The binding to membranes is required for effective presentation of prothrombin as a substrate for activation by the prothrombinase complex, which consists of activated factor X, activated cofactor V and calcium on phospholipid membrane. Activation by prothrombinase occurs by sequential cleavage after residue Arg320 then after Arg271 to produce the active protease α-thrombin (37 kDa) and the byproduct prothrombin fragment 1.2 (35 kDa). The product thrombin further cleaves prothrombin fragment 1.2 after residue Arg155 into individual prothrombin fragments 1 and 2. The activity of α-thrombin in plasma is inhibited primarily by antithrombin and the rate of inhibition is accelerated 1000-fold in the presence of optimal concentrations of heparin. Other physiological inhibitors of thrombin in the absence of heparin include α2 macroglobulin and α1 Antitrypsin.

Keywords

F2;coagulation factor II (thrombin);PT;THPH1;RPRGL2;prothrombin;serine protease;prothrombin B-chain;prepro-coagulation factor II

GENE INFORMATION

Entrez Gene ID

[2147](#)

UniProt ID

[P00734](#)
