



# Sheep anti Human Thrombin polyclonal antibody [HRP] (CABT-L407)

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

## PRODUCT INFORMATION

<b>Specificity</b>	Prior to conjugation, this antibody was specific for thrombin or prothrombin as demonstrated by immunoelectrophoresis and ELISA.
<b>Target</b>	Thrombin
<b>Immunogen</b>	Thrombin prepared from purified human prothrombin, active site blocked with PPACK.
<b>Isotype</b>	IgG
<b>Source/Host</b>	Sheep
<b>Species Reactivity</b>	Human
<b>Conjugate</b>	HRP
<b>Applications</b>	IEP, ELISA
<b>Format</b>	Liquid
<b>Size</b>	200 µg
<b>Buffer</b>	A buffered stabilizer solution containing 50% (v/v) glycerol.
<b>Preservative</b>	None
<b>Storage</b>	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. Avoid exposure to sodium azide as this is an inhibitor of peroxidase activity.

# BACKGROUND

## Introduction

Thrombin (EC3.4.21.5,  $\alpha$ -thrombin) is the product of proteolytic activation of the zymogen prothrombin. Human thrombin is a two-chain serine protease with a mass of 37 kDa. The active site is located within the heavy chain. Thrombin has a high specificity for certain arginine bonds in protein substrates. The primary substrate is fibrinogen which thrombin converts to fibrin through the cleavage of four arginyl-glycyl peptide bonds. Thrombin is also an important activator of platelets, factor XIII, Protein C and TAFI (Plasma procarboxypeptidase B). In a positive feedback mechanism, thrombin increases the rate of its own production by activation of factors VIII and V. The rate of thrombin production is subsequently limited indirectly through the activation of Protein C by thrombin, which then inactivates the activated cofactors VIII and V. The binding of thrombin to thrombomodulin on the cell surface dramatically alters thrombin's specificity, increasing its activity toward Protein C and TAFI, and decreasing its activity toward fibrinogen and activating cofactors VIII and V. In plasma, thrombin activity is inhibited primarily by antithrombin and to a lesser extent heparin cofactor II. The rate of inhibition by both of these inhibitors is profoundly increased in the presence of optimal concentrations of heparin. Other physiological inhibitors of thrombin in the absence of heparin include  $\alpha$ 2 macroglobulin and  $\alpha$ 1 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](#)