



# Goat anti Human Factor XII polyclonal antibody [HRP] (CABT-L459)

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 factor XII as demonstrated by immunoelectrophoresis and ELISA.
<b>Target</b>	Factor XII
<b>Immunogen</b>	Human Factor XII purified from plasma.
<b>Isotype</b>	IgG
<b>Source/Host</b>	Goat
<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

Factor XII (F.XII, Hageman factor) is a 76 kDa, single chain glycoprotein produced in the liver. In plasma, F.XII circulates as a protease zymogen at a concentration of approximately 30 µg/ml (400 nM). Upon vascular injury F.XII binds to negatively charged extravascular surfaces such as cartilage and skin, which facilitate activation of the zymogen to the active serine protease. Cleavage of F.XII by kallikrein after residue Arg353 produces the enzyme  $\alpha$  F.XIIa, consisting of a 28 kDa light chain containing the protease domain, and a 52 kDa heavy chain containing the anionic surface-binding domain. Substrates for surface bound F.XIIa include the zymogens prekallikrein (PK) and factor XI (F.XI) as well as the procofactor high-molecular weight kininogen (HK). The activation of these substrates results in positive feedback activation of F.XII. Further cleavage of  $\alpha$ F.XIIa by kallikrein produces the 28 kDa fragment  $\beta$  F.XIIa (Hageman factor fragment).  $\beta$ F.XIIa has reduced procoagulant activity as it lacks the anionic surface-binding domain, but is capable of fluid-phase activation of PK, factor VII and complement C1. The activity of F.XIIa in plasma is regulated predominantly by C1-Inhibitor, with relatively minor contributions by  $\alpha$ 2 Antiplasmin,  $\alpha$ 2 macroglobulin and antithrombin, even in the presence of therapeutic levels of heparin.

## Keywords

F12;coagulation factor XII (Hageman factor);HAF;HAE3;HAEX;coagulation factor XII;Hageman factor;beta-factor XIIa part 1;beta-factor XIIa part 2;coagulation factor XIIa heavy chain;coagulation factor XIIa light chain;

# GENE INFORMATION

## Entrez Gene ID

[2161](#)

## UniProt ID

[P00748](#)