



# Goat anti Human $\alpha 2$ Macroglobulin polyclonal antibody [HRP] (CABT-L504)

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 $\alpha 2$ Macroglobulin as demonstrated by immunoelectrophoresis and ELISA.
<b>Target</b>	$\alpha 2$ -Macroglobulin
<b>Immunogen</b>	Human $\alpha 2$ macroglobulin purified from plasma.
<b>Isotype</b>	IgG
<b>Source/Host</b>	Goat
<b>Species Reactivity</b>	Human
<b>Purification</b>	Affinity purified
<b>Conjugate</b>	HRP
<b>Applications</b>	IEP, ELISA
<b>Format</b>	Liquid
<b>Size</b>	100 $\mu$ g
<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

Alpha 2-Macroglobulin ( $\alpha$ 2M) is a large proteinase inhibitor molecule of 718,000 daltons, consisting of 4 identical subunits of 185,000 each. Produced in hepatocytes and macrophages, plasma concentrations of  $\alpha$ 2M are typically 2  $\mu$ M in adults, and as high as 6  $\mu$ M in childhood.  $\alpha$ 2M has the ability to inhibit most enzymes from the serine, metallo, cysteine and aspartate subclasses. It is not a member of the SERPIN family of inhibitors but belongs to a class of proteins that include pregnancy zone protein (PZP) and the complement proteins C3, C4 and C5. These proteins contain regions of conserved sequence as well as one or more internal  $\beta$ -cysteinyl- $\gamma$ -glutamyl thiolester bonds, which in the case of  $\alpha$ 2M are susceptible to cleavage by enzymes or by nucleophilic compounds such as methylamine or ammonium ions. Although the precise nature of the interactions is as yet unknown, it is generally thought that cleavage of a bait region within the  $\alpha$ 2M molecule by an enzyme leads to a conformational change, which then traps and/or covalently binds the enzyme. The active site of the trapped enzyme is usually still intact and able to cleave small substrates, but is inaccessible to larger natural substrates. The conformational change induced also exposes receptor-binding regions within the molecule, which may be important in the clearance of  $\alpha$ 2M-enzyme complexes from the circulation. It is thought that the main role of  $\alpha$ 2M in vivo is that of a "backup" inhibitor and scavenger of proteinases in blood and in tissues, but it has also been reported to participate in other physiological processes, including regulation of immune function..

## Keywords

A2M;A2MG\_HUMAN;Alpha 2 M;Alpha 2M;Alpha-2-M;Alpha-2-macroglobulin;C3 and PZP-like alpha-2 macroglobulin domain-containing protein 5;CPAMD5;DKFZp779B086;FWP007;S8637

# GENE INFORMATION

## Entrez Gene ID

[2](#)

## UniProt ID

[P01023](#)