**Overview**

**Product name**
Human alpha 1 Microglobulin ELISA Kit

**Detection method**
Colorimetric

**Precision**

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
<td>5.4%</td>
</tr>
</tbody>
</table>

**Sample type**
Cell culture supernatant, Saliva, Milk, Urine, Serum, Plasma, Cerebral Spinal Fluid

**Assay type**
Sandwich (quantitative)

**Sensitivity**
= 0.16 ng/ml

**Range**
0.313 ng/ml - 20 ng/ml

**Recovery**
96%

**Assay time**
4h 00m

**Assay duration**
Multiple steps standard assay

**Species reactivity**
Reacts with: Human

**Product overview**
Abcam’s alpha 1 Microglobulin Human in vitro ELISA (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of alpha 1 Microglobulin concentrations in Human cell culture supernatants, serum, plasma, urine, saliva, CSF and milk.

An alpha 1 Microglobulin specific antibody has been precoated onto 96-well plates and blocked. Standards or test samples are added to the wells and subsequently an alpha 1 Microglobulin specific biotinylated detection antibody is added and then followed by washing with wash buffer. Streptavidin-Peroxidase Conjugate is added and unbound conjugates are washed away with wash buffer. TMB is then used to visualize Streptavidin-Peroxidase enzymatic reaction. TMB is catalyzed by Streptavidin-Peroxidase to produce a blue color product that changes into yellow after adding acidic stop solution. The density of yellow coloration is directly proportional to the
amount of alpha 1 Microglobulin captured in plate.

The entire kit may be stored at -20°C for long term storage before reconstitution - Avoid repeated freeze-thaw cycles.

Platform
Microplate

Properties

Storage instructions
Store at -20°C. Please refer to protocols.

<table>
<thead>
<tr>
<th>Components</th>
<th>1 x 96 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>100X Streptavidin-Peroxidase Conjugate</td>
<td>1 x 80µl</td>
</tr>
<tr>
<td>10X Diluent M Concentrate</td>
<td>1 x 30ml</td>
</tr>
<tr>
<td>20X Wash Buffer Concentrate</td>
<td>2 x 30ml</td>
</tr>
<tr>
<td>50X Biotinylated Human alpha 1 Microglobulin Antibody</td>
<td>1 x 120µl</td>
</tr>
<tr>
<td>alpha 1 Microglobulin Microplate (12 x 8 well strips)</td>
<td>1 unit</td>
</tr>
<tr>
<td>alpha 1 Microglobulin Standard (Lyophilized)</td>
<td>1 vial</td>
</tr>
<tr>
<td>Chromogen Substrate</td>
<td>1 x 7ml</td>
</tr>
<tr>
<td>Sealing Tapes</td>
<td>3 units</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>1 x 11ml</td>
</tr>
</tbody>
</table>

Function
Inter-alpha-trypsin inhibitor inhibits trypsin, plasmin, and lysosomal granulocytic elastase. Inhibits calcium oxalate crystallization. Trypstatin is a trypsin inhibitor.

Tissue specificity
Expressed by the liver and secreted in plasma. Alpha-1-microglobulin occurs in many physiological fluids including plasma, urine, and cerebrospinal fluid. Inter-alpha-trypsin inhibitor is present in plasma and urine.

Sequence similarities
In the N-terminal section; belongs to the calycin superfamily. Lipocalin family. Contains 2 BPTI/Kunitz inhibitor domains.

Post-translational modifications
The precursor is proteolytically processed into separately functioning proteins. 3-hydroxykynurenine, an oxidized tryptophan metabolite that is common in biological fluids, reacts with Cys-53, Lys-111, Lys-137, and Lys-149 to form heterogeneous polycyclic chromophores including hydroxanthommatin. The reaction by alpha-1-microglobulin is autocatalytic; the human protein forms chromophore even when expressed in insect and bacterial cells. The chromophore can react with accessible cysteines forming non-reducible thioether cross-links with other molecules of alpha-1-microglobulin or with other proteins such as Ig alpha-1 chain C region 'Cys-352'.

Heavy chains are interlinked with bikunin via a chondroitin 4-sulfate bridge to their C-terminal aspartate.
N- and O-glycosylated. N-glycan heterogeneity at Asn-115: Hex5HexNAc4 (major), Hex6HexNAc5 (minor) and dHex1Hex6HexNAc5 (minor). N-glycan at Asn-250: Hex5HexNAc4. O-linkage of the

Components

1 x 96 tests

<table>
<thead>
<tr>
<th>Components</th>
<th>1 x 96 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>100X Streptavidin-Peroxidase Conjugate</td>
<td>1 x 80µl</td>
</tr>
<tr>
<td>10X Diluent M Concentrate</td>
<td>1 x 30ml</td>
</tr>
<tr>
<td>20X Wash Buffer Concentrate</td>
<td>2 x 30ml</td>
</tr>
<tr>
<td>50X Biotinylated Human alpha 1 Microglobulin Antibody</td>
<td>1 x 120µl</td>
</tr>
<tr>
<td>alpha 1 Microglobulin Microplate (12 x 8 well strips)</td>
<td>1 unit</td>
</tr>
<tr>
<td>alpha 1 Microglobulin Standard (Lyophilized)</td>
<td>1 vial</td>
</tr>
<tr>
<td>Chromogen Substrate</td>
<td>1 x 7ml</td>
</tr>
<tr>
<td>Sealing Tapes</td>
<td>3 units</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>1 x 11ml</td>
</tr>
</tbody>
</table>
glycosaminoglycan, chondroitin sulfate, at Ser-215 allows cross-linking between the three polypeptide chains.

**Cellular localization**

Secreted.

**Images**

Standard curve: mean of duplicates (+/- SD) with background reads subtracted

Alpha 1 Microglobulin measured in biological fluids and cell culture supernatants showing quantity (ng) per mL of tested sample. Human serum and plasma samples diluted 10000-40000 fold. Human urine and milk diluted 100-800 fold. Human saliva diluted 8-16 fold. HepG2 supernatant diluted 1000 fold. MG-63 supernatant tested undiluted - below detection. Mouse and rat samples diluted 10 fold - below detection.

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

**Our Abpromise to you: Quality guaranteed and expert technical support**

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards
If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors