

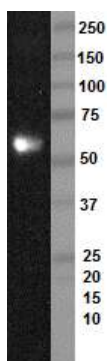
**CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET**

<b>Product name</b>	Alpha-1 antitrypsin, Human, clone 3C11		
<b>Catalog number</b>	HM2358-IA		
<b>Lot number</b>	-	<b>Expiry date</b>	-
<b>Volume</b>	-	<b>Amount</b>	0.5 mg
<b>Formulation</b>	0.2 µm filtered in PBS	<b>Concentration</b>	>0.5 mg/ml
<b>Host Species</b>	Mouse IgG2a	<b>Conjugate</b>	None
<b>Endotoxin</b>	N.A.	<b>Purification</b>	Protein G
<b>Storage</b>	4°C		

**Application notes**

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #						1		1,2
Yes						•		•
No								
N.D.	•	•	•	•	•		•	

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot



W: reduced western blot with monomeric alpha-1 antitrypsin (0.5 µg) shows a band of ~60 kDa when HM2358 is used. The concentration of HM2358 was 2 µg/ml.

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

- IA: When used as a detection antibody in sandwich ELISA, the antibody 3C11 reacts with similar affinity with monomeric and polymeric alpha-1 antitrypsin (Ref.1).
- W: Non-denaturing (3–12% NativePAGE Bis-Trisgel) and SDS-PAGE gels were used to separate the samples. 6 M urea gel was prepared with 8% acrylamide (w/v) and 0.375 M Tris buffer (Ref.2). Both reduced and non-reduced sample treatment can be used.

**General Information**
**Description**

Antibody clone 3C11 recognizes both the healthy monomeric form (M variant) and the disease associated polymeric forms (Z variants) of human alpha-1-antitrypsin with equal affinity. Alpha-1-antitrypsin is a member of the serine protease inhibitor (serpin) superfamily which are proteins known for their ability to inhibit proteases. It is the most abundant circulating protease inhibitor known. It mainly targets enzymes released by neutrophils, especially neutrophil elastase (NE) but also proteinase 3 (PR3) and Cathepsin G (CG). Serpinopathies are conformational diseases characterized by the polymerization and intracellular retention of members of the serpin superfamily. The best known is alpha-1 antitrypsin deficiency, with the most common severe deficiency allele being the Z mutation (Glu342Lys). This severe autosomal dominant disorder causes the protein to undergo a conformational transition and form ordered polymers that are retained within hepatocytes. Due to this accumulation of polymers in hepatocytes, blood alpha-1 trypsin levels will decrease leading to chronic uninhibited tissue breakdown. This causes the degradation especially of lung tissue which will eventually lead to pulmonary emphysema. In addition, accumulation of polymers in hepatocytes causes liver diseases such as neonatal hepatitis, cirrhosis, and hepatocellular carcinoma.

<b>Immunogen</b>	Monomeric Z a1-antitrypsin purified from the plasma of a PI*ZZ homozygote (Ref.1)
<b>Aliases</b>	Alpha-1 protease inhibitor, Alpha-1-antiproteinase, Serpin A1
<b>Gene</b>	Gene name: SERPINA1, AAT, PI
<b>References</b>	<ol style="list-style-type: none"> <li>1. Ordoñez, A et al; A single-chain variable fragment intrabody prevents intracellular polymerization of Z a1-antitrypsin while allowing its antiproteinase activity. The FASEB Journal 2015, 29:2667</li> <li>2. Tan, L et al; Characterising the association of latency with α(1)-antitrypsin polymerisation using a novel monoclonal antibody. Int J Biochem Cell Biol 2015, 58:81.</li> </ol>
<b>Storage&amp;stability</b>	Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.
<b>Precautions</b>	For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

Approved by Manager of QC  
Robbert Zwinkels

Date  
27/03/2018

Do you have any questions or comments regarding this product? Please contact us via [support@hycultbiotech.com](mailto:support@hycultbiotech.com).