



## Product Datasheet

<b>Product Name</b>	Alpha 1 Antitrypsin Human
<b>Cata No</b>	CB500976
<b>Source</b>	<i>Human Plasma</i>
<b>Synonyms</b>	Alpha-1-antitrypsin, Alpha-1 protease inhibitor, Alpha-1-antiproteinase, SERPINA1, A1AT, PI, A1A, AAT, PI1, MGC9222, PRO2275, MGC23330.

### Description

Alpha 1 Antitrypsin (human) is a serum glycoprotein synthesized in the liver. It acts as an elastase inhibitor, primarily inhibiting neutrophil elastase, chymotrypsin, collagenase, leucocytic proteases, plasmin, and thrombin, which may be released during inflammatory reactions in the lung. Human A1AT consists of a single polypeptide chain, which has a molecular weight of 51kDa. It exists in a number of genetic variants. In the absence of Human A1AT, these enzymes are not inhibited and they may digest pulmonary parenchyma. Human API deficiency is associated with chronic obstructive lung disease (emphysema) and less frequently with hepatic cirrhosis in infants and respiratory distress of the newborn. Increase in Human A1AT occurs as an acute phase response to tissue necrosis and inflammation. Serum level of Human A1AT is elevated in rheumatoid arthritis, bacterial infections, vasculitis, and carcinomatosis. In colorectal and lung carcinomas, Human A1AT has also related to

their invasive and metastatic capacity. The average level of Human A1AT in plasma is 1.3g/L.

### Physical Appearance

Sterile Filtered clear solution.

### Biological Activity

1-4 mg will inhibit 1.0 mg of trypsin with activity of 10,000 BAEE units per mg protein.

2-6 mg will inhibit approx. 1.0 mg of chymotrypsin with activity of 40-50 BTEE units per mg protein.

### Purity

Greater than 95.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

### Formulation

A1AT contains 0.5X PBS and 7mg sodium chloride.

### Stability

A1AT should be stored between 2°C-8°C.

**Do not freeze.**

**\* For Non-Clinical Research Use Only \***