Product Data Sheet

**Human alpha 1 antichymotrypsin (ACT) Protein and Antibodies**

| # A1CT15-N-100 | Alpha 1-Antichymotrypsin, Human Plasma | Size: 100 ug |

**α1-Antichymotrypsin** is an alpha globulin glycoprotein that is a member of the serpin superfamily. It inhibits the activity of certain enzymes called proteases, such as cathepsin G that is found in neutrophils, and chymases found in mast cells, by cleaving them into a different shape or conformation. This activity protects some tissues, such as the lower respiratory tract, from damage caused by proteolytic enzymes. This protein is produced in the liver, and is an acute phase protein that is induced during inflammation. Deficiency of this protein has been associated with liver disease. Mutations have been identified in patients with Parkinson disease and chronic obstructive pulmonary disease. Alpha 1-antichymotrypsin is also associated with the pathogenesis of Alzheimer's disease as it enhances the formation of amyloid-fibrils in this disease. An acute-phase plasma protein found at 45 mg per 100 ml. ACT functions as a specific inhibitor of chymotrypsin-like serine proteases. Clinically, it is elevated in inflammatory conditions, some malignancies, Crohn's disease, ulcerative colitis, and burn injuries. The PSA-ACT complex level is considered a biomarker for prostate cancer.

**Recommended usage**

- As antigens for ELISA, western
- For affinity column preparation to enrich or remove human anti-Tg antibodies from serum or plasma

**Optimum concentrations** for a given application must be determined by the user

**References:**

For in vitro research use only

**Source of protein**

#A1CT15-N-100 (purified protein)

Human α1 ACT is purified from plasma (>99%, ~64 Kda, single arc corresponding to ACT in IEP Vs anti-normal human serum). All human derived material has been tested negative for HIV, HCV, and HbsAg. Nevertheless, all precautions should be taken and samples be treated as potentially hazardous.

It is supplied lyophilized in a buffer (20 mM Tris, pH 7.4, 150 mM NaCl). Reconstitute lyophilized protein in water at >100 ug/ml.

The powder should be stored in the freezer (−0 °C). If properly stored, these products have a shelf life of at least two years. Solutions lose <2 % of their activity per week if stored at −20 °C.

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