

AAT (8.F.14): sc-69986

BACKGROUND

Cumulative damage to lung tissue by Neutrophil Elastase is responsible for the development of pulmonary emphysema, an irreversible lung disease characterized by loss of lung elasticity. α 1-antitrypsin (AAT), a 394 amino acid hepatic acute phase protein, predominantly inhibits Neutrophil Elastase. AAT is highly expressed in liver and in cultured hepatoma cells and, to a lesser extent, in macrophages. AAT is a highly polymorphic glycosylated serum protein with characteristic isoelectric-focusing patterns for most variants. The gene encoding AAT maps to a region of human chromosome 14 that includes a related serine protease inhibitor (serpin) gene which encodes corticosteroid-binding globulin. Oxidation of the methionine 358 residue in the active center of AAT results in a dramatic decrease in inhibitory activity towards elastase. AAT also has a moderate affinity for plasmin and Thrombin. AAT deficiency is associated with a 20-30 fold increased risk of precocious pulmonary emphysema.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: SERPINA1 (human) mapping to 14q32.13; Serpina1e (mouse) mapping to 12 E.

SOURCE

AAT (8.F.14) is a mouse monoclonal antibody raised against purified AAT from serum of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

AAT (8.F.14) is recommended for detection of AAT of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with AACT.

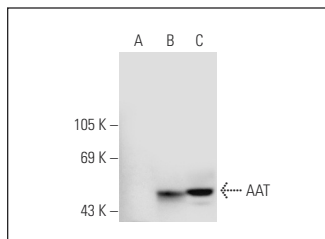
Suitable for use as control antibody for AAT siRNA (h): sc-40945, AAT siRNA (m): sc-40946, AAT shRNA Plasmid (h): sc-40945-SH, AAT shRNA Plasmid (m): sc-40946-SH, AAT shRNA (h) Lentiviral Particles: sc-40945-V and AAT shRNA (m) Lentiviral Particles: sc-40946-V.

Molecular Weight of luminal AAT: 51 kDa.

Molecular Weight of mature AAT: 55 kDa.

Positive Controls: human liver extract: sc-363766, AAT (h): 293 Lysate: sc-112989 or rat liver extract: sc-2395.

DATA



AAT (8.F.14): sc-69986. Western blot analysis of AAT expression in non-transfected: sc-110760 (A) and human AAT transfected: sc-112989 (B) 293 whole cell lysates and rat liver tissue extract (C).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.