

ATIII (D-20): sc-32452

BACKGROUND

The serine proteinase inhibitors (serpins) compose a superfamily of proteins with a diverse set of functions, including the control of blood coagulation, complement activation, programmed cell death and development. Serpins are secreted glycoproteins that contain a stretch of peptide that mimics a true substrate for a corresponding serine protease. Antithrombin-III (ATIII), an extracellular plasma protein, is a crucial serine protease inhibitor that regulates the coagulation cascade in blood. The inhibitory activity of ATIII is amplified in the presence of heparin. ATIII inhibits Thrombin and factors IXa, Xa and XIa. Defects in the gene *Serpinc1*, which encodes for ATIII, can cause ATIII (antithrombin III) deficiency, an autosomal dominant disease which is a risk factor for hereditary thrombophilia.

REFERENCES

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2. Scully, M.F., et al. 1981. Hereditary antithrombin III deficiency in an English family. *Br. J. Haematol.* 47: 235-240.
3. Winter, J.H., et al. 1981. Transfusion studies in patients with familial antithrombin III (ATIII) deficiency: half-disappearance time of infused ATIII and influence of such infusion on platelet life-span. *Br. J. Haematol.* 49: 449-453.
4. Okajima, K., et al. 1995. ATIII Kumamoto II; a single mutation at Arg 393-His increased the affinity of ATIII for heparin. *Am. J. Hematol.* 48: 12-18.
5. Bayston, T.A., et al. 1999. Familial overexpression of β antithrombin caused by an Asn135Thr substitution. *Blood* 93: 4242-4247.
6. Yeung, P.K. 2000. Transgenic antithrombin III (Genzyme). *IDrugs* 3: 669-673.
7. Niiya, K., et al. 2001. Two novel gene mutations in type I AT deficiency. *Int. J. Hematol.* 74: 469-472.

CHROMOSOMAL LOCATION

Genetic locus: *SERPINC1* (human) mapping to 1q25.1; *Serpinc1* (mouse) mapping to 1 H2.1.

SOURCE

ATIII (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ATIII of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-32452 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

ATIII (D-20) is recommended for detection of ATIII 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ATIII (D-20) is also recommended for detection of ATIII in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ATIII siRNA (h): sc-44839, ATIII siRNA (m): sc-44840, ATIII shRNA Plasmid (h): sc-44839-SH, ATIII shRNA Plasmid (m): sc-44840-SH, ATIII shRNA (h) Lentiviral Particles: sc-44839-V and ATIII shRNA (m) Lentiviral Particles: sc-44840-V.

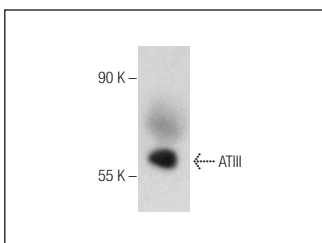
Molecular Weight of ATIII: 55 kDa.

Positive Controls: human plasma extract: sc-364374, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ATIII (D-20): sc-32452. Western blot analysis of ATIII expression in human plasma.

RESEARCH USE

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

MONOS
Satisfaction
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Try **ATIII (H-7): sc-271987** or **ATIII (A-6): sc-393867**, our highly recommended monoclonal alternatives to ATIII (D-20).