

ALPHA 1-
ANTITRYPSIN
PHENOTYPE,
SERUM

Orderable - A₁ATP

Turn Around Time: 2 weeks



Laboratory:
Core Lab



Requisition:
GENERAL LABORATORY
REQUISITION



Method of Analysis:
Nephelometry for
quantification;
LC-MS/MS for
proteotyping (detection
of mutated peptides of
the S and Z alleles);
Isoelectric focusing for
phenotyping (if indicated)



Test Schedule:
Referred out Monday-
Thursday



Referred Out Location:
[In-Common Laboratories](#)

Alternate Name(s):

Alpha-1 Antitrypsin Phenotype
Alpha-1-Antitrypsin Phenotype
Alpha1 Antitrypsin Phenotype
Alpha 1 Antitrypsin Phenotype
A1AT Phenotyping
Alpha 1-Antitrypsin Proteotype

Specimen:

Adult	Pediatric
5 mL Gold top Vacutainer tube	0-2 years: 2 x 0.5 mL Red or Gold top Microtainer 2-10 years: 3 mL Red Vacutainer top

Collection Information:

Serum drawn from a fasting individual is preferred.

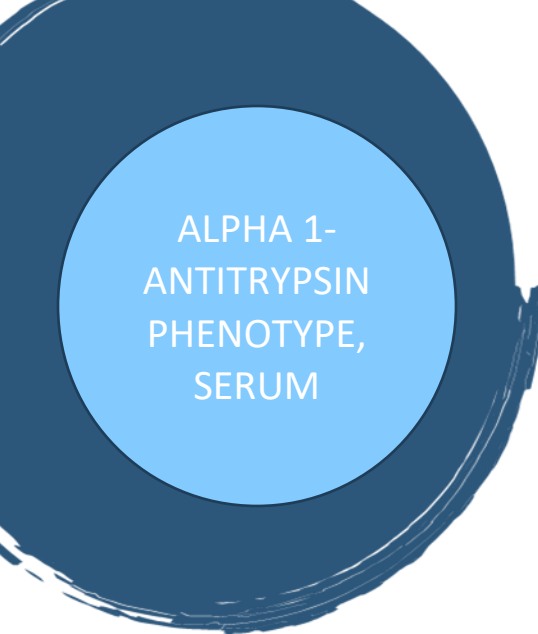
Minimum volume of serum required is 1.5 mL for an adult sample and 0.5 mL for a pediatric sample.

Reference Ranges:

Alpha-1-Antitrypsin:	100-190 mg/dL (reference interval from Mayo Medical Laboratories)
Proteotype:	Negative for S and Z phenotypes (Non S Non Z)

Interpretive Comments:

This assay will not detect 5% of the known mutations that cause alpha 1-antitrypsin



ALPHA 1-
ANTITRYPSIN
PHENOTYPE,
SERUM

(A1AT) deficiency. Therefore, the absence of a detectable mutation does not rule out the possibility that an individual is a carrier of, or affected with, this disease.

Errors in interpretation may occur if patients have had a recent blood transfusion or are on alpha 1-antitrypsin replacement therapy.

Comments:

This test is available exclusively to LHSC/SJHC physicians.

All specimens submitted for A1AT phenotyping/proteotyping will have a serum A1AT level measured at LHSC as a screening test. Those specimens with an A1AT result of ≤ 1.50 g/L will be referred out for proteotyping automatically as long as phenotyping/proteotyping has been ordered and phenotyping/proteotyping has not been done on the patient in the past. If the A1AT level is > 1.50 g/L, the sample will not be referred out for phenotyping/proteotyping without biochemist approval.

If Mayo Medical Laboratories finds the mass spectrometry proteotype and quantitative serum level to be discordant, phenotyping (by isoelectric focusing) will be performed.

Storage and Shipment:

Store and ship serum frozen.