Alpha-1-Antitrypsin; A1AT

Pseudonyms: Alpha 1 antiproteinase; A1PI.

General information

Collection container (Blood):

Adults – serum (with gel separator, 4.9mL Sarstedt brown top).

Paediatrics – lithium heparin plasma (1.2mL Sarstedt orange top tube).

Collection container (Faeces):

Adults – plain universal container, minimum 5g (equivalent to 2 marbles)

Paediatrics – plain universal container, minimum 5g (equivalent to 2 marbles)

Laboratory information

Method principle:

Immunoturbidimetry

Biological reference ranges:

Blood: 0.9 to 2.0 g/L Faeces: <0.48 mg A1AT per g faeces (dry weight)

Turnaround times:

Blood:

A1AT Concentration –The test is analysed as a batch so results should be available within 1 working week.

A1AT Phenotype - This test is referred to a third party laboratory. Results may take up to 4 weeks to return.

Faeces:

This test is referred to third party laboratory. Results may take up to 60 calendar days to return.

Clinical information

In paediatrics measurement of **blood** levels of A1AT is used to exclude inherited forms of alpha 1 antitrypsin deficiency. Although this is mainly in infants and children, this reason for the test may apply to patients at any age. Samples with levels below 1.2g/L have an electrophoretic phenotype test added automatically. An A1AT deficiency allele (S, Z or Null) is extremely unlikely when blood [A1AT] is >1.2g/L Genotyping is usually not required except in specific family studies requested by a clinical geneticist

In older patients an alpha-1 antitrypsin (A1AT) level may be requested to help diagnose the cause of early emphysema, especially when a person does not have obvious risk factors such as smoking or exposure to lung irritants such as dust and fumes or there is a family history of early emphysema.

A1AT may be measured in **faeces** if there is suspicion of a protein-losing enteropathy. The test is indicated if the patient is clinically euvolaemic and has persistent low plasma albumin and whose urine is negative for protein / albumin on dipstick.

Factors known to significantly affect the results:

A1AT is a positive acute-phase reactant whose blood levels rise in response to acute inflammation

Further information:

A1AT http://labtestsonline.org.uk/understanding/analytes/alpha1-antitrypsin/tab/test/

Protein-Losing Enteropathy: http://emedicine.medscape.com/article/182565-overview

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