

Activated partial thromboplastin time (APTT)



Synonyms:

APTT, APTT-STA, APTT-LA, APTT-FS

Description, significance:

The APTT is a global test of the plasmatic coagulation system and includes all coagulation factors except factors VII. Factor XIII and slight reductions in von Willebrand factor are not detected.

A normal APTT largely excludes clinically relevant coagulation disorders.

Different APTT test systems are on the market, the differences lie in the type of phospholipids contained (artificial or natural), the activator (kaolin or ellagic acid), and the measurement method. In addition, the test is not standardized. This results in different reference ranges and different sensitivities to single factor deficiencies or lupus anticoagulants.

Reference range:

varies depending on the test system, usually between 24 and 34 seconds.

Increased values:

extended APTT values can be found at:

Anticoagulants (dose-dependent for unfractionated heparin, not dose-dependent for low-molecular-weight heparins, direct anticoagulants, vitamin K antagonists)

Contamination of the sample with heparin

Factor deficiency, especially hemophilia A or B, but also other factor deficiencies except factor VII

Lupus anticoagulants

Various medications or substances

Decreased values:

have no clinical relevance

Preanalytics:

The APTT is determined automatically from citrate plasma. Care must be taken to collect blood accurately, avoid contamination, fill the blood tube correctly and mix well with the citrate. The blood sample must be sent to the laboratory as quickly as possible.

Influencing/disturbing factors:

Hematocrit, contamination with heparin

References:

Thomas L, Laboratory and Diagnosis, 2023, Release 5: <https://www.labor-und-diagnose.de/index.html>

Parameter catalog of the Clinical Institute for Laboratory Medicine, Med.Univ.Wien and AKH Vienna:

<https://www.akhwien.at/default.aspx?pid=3982>

List of services for clinical chemistry, Univ.Klinikum Ulm: <https://www.uniklinik-ulm.de/zentrale-einrichtung-klinische-chemie/leistungskatalog.html>