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Prothrombin Time（PT）Assay Kit

Note: Take two or three different samples for prediction before test.

Operation Method: Coagulation method

Cat No: AK1028

Size: 50T/48S ; 100T/96S

Product Composition: Before use, please carefully check whether the volume of the reagent is consistent with the volume in the bottle. If you have any questions, please contact SunLong staff in time.

Product Description:

Prothrombin Time (PT) refers to the time required for plasma coagulation to activate the exogenous coagulation pathway after tissue thromboplastin and calcium ions are introduced into the hypoplatelet plasma.

PT not only reflects prothrombin levels but also collectively reflects coagulation factors V, VII, X, and fibrinogen levels.

Tissue thromboplastin and calcium ions combine with plasma coagulation factors to form a complex, catalyzing the conversion of prothrombin to thrombin. Thrombin catalyzes the conversion of soluble fibrinogen into insoluble fibrin, forming a gel-like clot.

Reagents and Equipment Required but Not Provided:

Centrifuge, timer, water-bath, adjustable pipette, 5mL/10mL round-bottom plastic test tubes/round- bottom centrifuge tubes, sodium citrate anticoagulant blood collection tube (optional).

Operation procedure:

I. Plasma preparation

Mix fresh venous blood and normal fresh venous blood with Reagent 1 at a 9:1 ratio (sodium citrate blood collection tube can also be used, as no additional Reagent 1 is needed), gently shake well, fully invalidate, then centrifuge at room temperature at 3000 rpm for 15 minutes. Take the upper plasma into a centrifuge tube, measure as soon as possible, and store at room temperature for 1 hour.

II. Determination procedure:

1. Take part of the Reagent II according to the sample quantity and preheat to 37°C for 3 minutes.

2. Add samples to round-bottom plastic test tubes/centrifuge tubes according to the steps in the table below:

Reagent (μL)

Test tube

Plasma to be measured/normal plasma

70

Incubate at 37℃ for 3 minutes

Reagent II

140

Reagent name

50T Size

100T Size

Storage

Reagent I

Liquid 60 mL×1
Liquid 110 mL×1
RT
Reagent II
Liquid 7 mL×1
Liquid 15 mL×1
2-8℃

Start timing as Reagent II is added, gently tilt the test tube/centrifuge tube (do not vigorously shake), observe the liquid condition, and record the gel formation time. Each batch requires measuring normal plasma 1-2 times as a control. Plasma to be tested exceeds normal plasma by more than 3 seconds is abnormal.

III. Calculation of prothrombin time ratio:

Prothrombin time ratio (PTR)= Plasma to be tested PT / Normal plasma PT

Notes:

1.

Plasma preparation can be done using sodium citrate blood collection tubes; no additional Reagent I is needed, and EDTA, heparin, oxalates, etc. should not be used as anticoagulants.

2.

Samples should avoid hemolysis, and blood collection should avoid tissue damage.

3.

After plasma preparation, it is recommended to measure it as soon as possible. It can be stored at room temperature for 1 hour, at 4°C for 6 hours, and at -20°C for 2 weeks by repackaging and storage to avoid repeated freeze-thaw cycles.

4.

Normal plasma must be prepared as a control for plasma testing; normal plasma only needs to be measured 1-2 times per batch.

5.

Differences in reagent batches, sample processing and storage, instruments, and experimental operations can lead to differences in test values, so it is recommended that laboratories establish their own reference ranges.

Experimental example：

1.

Rabbit plasma to be tested was taken and followed the measurement steps, resulting in a PT of 20 seconds.