

More information about **BIODATA Reagents**
Epinephrine

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PRODUCT DESCRIPTION

Epinephrine is a lyophilized preparation of adrenalin. The working concentration of the reconstituted reagent is 1X10⁻³M.

INTENDED USE

Epinephrine is for use in routine platelet aggregation studies for evaluation of qualitative platelet function disorders.

PRINCIPLE

When added to platelet rich plasma, Epinephrine stimulates platelets to aggregate. Aggregation induced by Epinephrine is referred to as primary aggregation. Normal platelets will further respond by releasing endogenous ADP from their granules. Release of endogenous ADP results in a secondary wave of aggregation.¹⁻³

PRECAUTIONS

Epinephrine is for **IN VITRO DIAGNOSTIC USE ONLY** and is **NOT FOR INJECTION OR INGESTION**.

MATERIALS PROVIDED

Epinephrine, 3 X 0.5mL. Store at 2° - 8° C prior to reconstitution.

MATERIALS REQUIRED BUT NOT PROVIDED

1. Platelet aggregometer
2. Aggregometer cuvettes
3. Stir bars
4. Purified water (distilled, deionized or reagent grade), pH 5.3 - 7.2
5. Pipettes (0.45mL, 0.5mL, and 0.05mL volumes)

INSTRUMENTATION

Epinephrine will perform as described when used on any platelet aggregometer. Follow the manufacturer's instructions for operating the analyzer in use.

COLLECTION AND PREPARATION OF TEST PLASMA

Blood for platelet aggregation must be collected in plastic syringes and transferred to plastic tubes. At no time should whole blood or platelet rich plasma come in contact.³

A. BLOOD COLLECTION

Blood collection should be performed with care to avoid hemolysis or contamination by tissue fluids.

1. Draw blood into a plastic syringe, avoiding excess suction.

2. Remove the needle from the syringe and gently dispense the blood into a plastic tube containing 1.0mL of 0.11 M sodium citrate. Cover and invert gently to mix.

B. PREPARATION OF PLATELET RICH AND PLATELET POOR PLASMA

1. Prepare platelet rich plasma by centrifuging the anticoagulated blood at 150 x g for 5 minutes at room temperature.

2. Examine the plasma layer for red cells. If red cells are present, recentrifuge for an additional 5 minutes.

3. Using a plastic pipette, transfer the platelet rich plasma to a plastic container labeled PRP. Cap the container and allow it to stand at room temperature while completing step 4.

4. Prepare platelet poor plasma by centrifuging the remaining blood specimen at 2500 x g for 15 minutes. Transfer the platelet poor plasma to a container labeled PPP.

5. The platelet count of the PRP should be adjusted to 250,000 ± 50,000 with PPP from the sample.²

RECONSTITUTION OF REAGENT

Reconstitute a vial of Epinephrine with 0.5mL purified water, pH 5.3 - 7.2.

NOTE: Warm to room temperature prior to reconstitution.

REAGENT STORAGE

Reconstituted Epinephrine is stable for 30 days at 2° - 8° C when sealed tightly in the original vial.

TEST PROCEDURE

The platelet rich plasma must be held at room temperature for at least 30 minutes prior to testing. Testing must be completed within 3 hours after blood collection.³

1. Prepare an aggregometer blank by pipetting 0.5mL platelet poor plasma into a cuvette.
2. Pipette 0.45mL platelet rich plasma into a second cuvette. Incubate at 37°C for 3 minutes and add a stir bar.
3. Set if required the 0% and 100% baseline according to the manufacturer's instructions for the instrument in use.
4. Add 0.05mL Epinephrine directly into the platelet rich plasma. Do not allow reagent to run down the wall of the cuvette. The final concentration of Epinephrine in the platelet rich plasma is $1 \times 10^{-4}M$.
5. Allow the aggregation pattern to generate for 5 minutes.

QUALITY CONTROL

To assure daily reagent performance, a control specimen should be evaluated in the same manner as each test specimen. The control should consist of fresh platelet rich plasma collected from a normal donor who has not ingested aspirin or aspirin containing compounds within the past 10 days.

EXPECTED VALUES

An expected range for Epinephrine aggregation should be established by each laboratory.⁴ Studies have shown that Epinephrine induces 70-90% total aggregation in normal platelet rich plasma.

Abnormal Epinephrine aggregation will be observed in the presence of aspirin, an aspirin-like release defect, storage pool disease and Glanzmann's Thrombasthenia.¹⁻³

NOTE: The presence of red blood cells in the platelet rich plasma will cause total percent aggregation to appear falsely decreased. The presence of platelets in the platelet poor plasma will cause total percent aggregation to appear falsely increased.

LIMITATIONS

Spurious results will be observed when the platelet count of the platelet rich plasma is less than 75,000 platelets/ μL . Platelet rich plasma which has not been held at room temperature for at least 30 minutes prior to testing may yield abnormal results. Several reports indicate that platelet rich plasma from 20-50% of the normal population will exhibit only a primary wave of aggregation in response to Epinephrine.

PERFORMANCE CHARACTERISTICS

Stability studies have shown that Epinephrine will perform satisfactorily when stored at recommended temperatures.

REFERENCES

1. Williams WJ, Beutler E, Erslev AJ, Rundles RW: Hematology. McGraw-Hill, 1977.
2. Owen CA, Bowie EJW, Thomson JH: The diagnosis of bleeding disorders, Little Brown and Company, 1975.
3. Triplett DA, Harms CS, Newhouse P, Clark C: Platelet function. Laboratory evaluation and clinical application. ASCP, Chicago, 1978.
4. Day HJ, Holmsen H: Laboratory tests of platelet function. Annal Clin Lab Sci, 2:63, 1972.

PRODUCT AVAILABILITY

PRODUCT	NET CONTENTS	NUMBER CATALOG
Epinephrine	3 x 0.5mL	101311
ALSO AVAILABLE		
PAR/Pak® II (ADP, Collagen, Epinephrine)	60 Tests	101310
BETA/Pak® (ADP, Collagen, Ristocetin)	30 Tests	101580
ADP	30 Tests	101312
Arachidonic Acid	30 Tests	101297
Collagen	30 Tests	101562
Ristocetin AggRecetin®	1.5mg/mL 15mg	100968
AggRecetin®	1.2mg/mL 15mg	100969
AggRecetin®	1.0-1.5mg/mL 15mg	100970
AggRecetin® (Bulk)	100mg	101241
vW Factor Assay®	10 Test Kit	101246
vW Factor Assay®	20 Test Kit	103025

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