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Yale - Blood Urea Nitrogen

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Protocol status: Working
We use this protocol and it's working

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Abstract

Summary:

Procedure used to measure the concentration of Blood Urea Nitrogen(BUN) in blood, plasma, and serum. Urea is determined by the enzymatically coupled reactions of urease (to form ammonia) and glutamate dehydrogenase (conversion of ammonia and glutamate to glutamine with oxidation of NADH to NAD). The rate of NAD formation is monitored by the change in absorbance at 340 nm.

Materials

MATERIALS

- BUN liquid Reagent **Prolabs(cliniqa) Catalog #**R84533
- Multi Analyte Calibrator **Prolabs(cliniqa) Catalog #**R60010
- Assayed Control Serum 1 **Prolabs(cliniqa) Catalog #**R83082
- Assayed Control Serum 2 **Prolabs(cliniqa) Catalog #**R83083

Reagent Preparation:

BUN liquid Reagent: As supplied by vendor

Multi Analyte Calibrator: Add the appropriate amount of water (6.5mL) to the chemical control bottle. Invert to mix, allowing 15 minutes for the reagent to settle.

Assayed Control Serum 1: Add the appropriate amount of water (6.5mL) to the chemical control bottle. Invert to mix, allowing 15 minutes for the reagent to settle.

Assayed Control Serum 2: Add the appropriate amount of water (6.5mL) to the chemical control bottle. Invert to mix, allowing 15 minutes for the reagent to settle.

Troubleshooting

Before start

Analysis by automated system Cobas Mira Plus

1 Calibrate Cobas for BUN analysis by running a multi analyte standard and two assayed control serums.

2 Sample handling as performed by the Cobas Mira Plus.
a) Cobas pipettes 2 µL of sample into a cuvette slot.
b) Absorbance is measured at 340 nm.
c) Add 200 µL of BUN liquid reagent.
d) Mixture is incubated at 37ºC for 10 minutes.
e) Absorbance is measured at 340 nm. Change in absorbance is calculated.