Blood Urea Nitrogen (BUN)

Version: 1
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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.

Reagents and Materials:

Reagent/Material	Vendor	Stock Number
BUN liquid Reagent	Prolabs	R84533
Multi Analyte Calibrator	Prolabs	R60010
Assayed Control Serum 1	Prolabs	R83082
Assayed Control Serum 2	Prolabs	R83083

Protocol: 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 37˚C for 10 minutes.
- **e)** Absorbance is measured at 340 nm. Change in absorbance is calculated.

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.