

# AMMONIA SYSTEM PACK

B Auto 200, Unicorn 230, Unicorn 120 & Bonavera Chem 200  
( Fully Auto Biochemistry Analyzer)



## BEACON

Code	Product Name	Pack Size
BA204	Ammonia System Pack	1x16 + 1x4 ml

### INTENDED USE:

The reagent kit is intended for the “in vitro” quantitative determination of Ammonia.

### SUMMARY:

Ammonia (NH<sub>3</sub>) is a reagent kit used for the quantitative determination of ammonia in plasma, based on enzymatic method using glutamate dehydrogenase (GLDH) enzyme.

### PRINCIPLE:

Ammonia reacts with α-ketoglutarate to form glutamate in presence of glutamate dehydrogenase. NADH is oxidized to NAD<sup>+</sup> in this reaction, which is measured as decrease in absorbance at 340 nm. The rate of decrease in absorbance at 340 nm is directly proportional to plasma ammonia concentration.



### CONTENTS:

Reagent 1 : Ammonia Reagent 1  
Reagent 2 : Ammonia Reagent 2  
Reagent 3 : Ammonia Standard (500 µg/dl)

### STORAGE & STABILITY

The reagent kit should be stored at 2 - 8°C and is stable till the expiry date indicated on the label.

On board stability: Min. 30 days if refrigerated (2-10°) and not contaminated.

### SAMPLES:

EDTA plasma or Heparinized plasma.

Blood is collected from a stasis-free vein and stored in an ice bath.

The plasma is then separated within 30 min. Ammonia assay should be carried out immediately. The plasma may be stored for 2 hour at 2°- 8° C.

### PREPARATION OF REAGENT & STABILITY :

The reagent kit is stable at 2 - 8°C till the expiry date mentioned on the bottles.

On board stability: Min. 30 days if refrigerated (2-10°) and not contaminated.

### NORMAL VALUE :

Plasma : 17-90 µg/dl

Expected range varies from population to population and each Laboratory should establish its own normal range.

### LINEARITY :

This procedure is linear up to 1500 µg/dl. If value exceeds this limit dilute the sample with normal saline (NaCl 0.9%) and repeat the assay. Multiply result by dilution factor.

### CALIBRATION :

Calibration with the Ammonia Standard provide in the kit is recommended.

### QUALITY CONTROL :

For accuracy, it is advised to run known controls with each assay.

### LIMITATION & PRECAUTIONS :

1. Anticoagulants having ammonium ions should not be used because of extreme sensitivity of the color reaction to ammonia.
2. Reaction is linear up to 1500 µg/dl. For higher values, dilute the sample with normal saline and perform the assay. Multiply the final result by dilution factor to get the real value.
3. The working reagent is considered unsatisfactory and should not be used if the absorbance is less than 0.700 at 340 nm against distilled water.
4. Do not use strongly hemolysed samples.

Parameter For B Auto 200, Unicorn 230, Unicorn 120 &  
Bonavera Chem 200 ( Fully Auto Biochemistry Analyzer)

TEST NAME	Ammonia
FULL NAME	Ammonia
PRI WAVE	340 nm
SEC WAVE	630 nm
ASSAY/POINT	Fixed Time
START	20
END	30
DECIMAL	1
UNIT	µg/dl
LINEARITY RANGE LOW	0
LINEARITY RANGE HIGH	1500
SAMPLE VOLUME	20 µl
REAGENT 1 (R1) VOLUME	160 µl
REAGENT 1 (R2) VOLUME	40 µl
SUBSTRATE DEPLETED	-
LINEARITY	-
OUT OF LINEARITY RANGE	-
CALIBRATION TYPE	2 Point linear
POINTS	2
BLANK TYPE	Water
CONCENTRATION BLANK	0.00
CONCENTRATION STD	500 µg/dl
SAMPLE VOLUME	20 µl

#### BIBLIOGRAPHY :

1. Dewan, J.G., Biochem J., 1938;32:1378.
2. Mondzac, A., Ehrlich, G.E., Seegmiller, J.E., J Lab Clin. Med; 1965;66:526.
3. Howanowitz, J.H., Howanowitz, P.J., Skrodzki, C.A., Inwanski J.A: Clin. Chem., 1984;30:906.
4. Neely, W.E., Phillipson, J., Clin. Chem, 1988;34:1868.
5. Pesh-Imam, M., Kumar, S., Wills, C.E., Clin. Chem., 1978;24:2044.



#### SYMBOLS USED ON LABELS

<b>REF</b>	Catalogue Number		Manufacturer		See Instruction for Use
<b>LOT</b>	Lot Number	<b>CONT</b>	Content		Storage Temperature
	Expiry Date	<b>IVD</b>	In Vitro Diagnostics		