

## **$\alpha$ -AMYLASE** (CNP G<sub>3</sub> Method)

For the determination of  $\alpha$ -Amylase activity in serum, plasma or urine.  
(For In vitro Diagnostic Use Only)

### **CLINICAL SIGNIFICANCE**

$\alpha$ -Amylase is most frequently measured in the diagnosis of acute pancreatitis when serum levels may be grossly elevated and therefore is useful diagnostic tool in critical care management. In acute pancreatitis  $\alpha$ -Amylase levels reach a peak at 24 hours and remain elevated from 3-7 days. Hyperamylasemia is also associated with other acute abdominal disorders, biliary tract diseases, diabetic ketoacidosis, severe glomerular dysfunction, salivary gland disorders, and ruptured ectopic pregnancy.

### **METHODOLOGY – CNP G<sub>3</sub> method**

#### **PRINCIPLE**

Substrate CNP G<sub>3</sub> is directly hydrolyzed by  $\alpha$ -Amylase to produce CNP monitored at 405 nm during incubation of the reagent with a sample.



CNP G<sub>3</sub> = 2-Chloro-4-nitrophenyl- $\alpha$ -Maltotrioxide

CNP G<sub>2</sub> = 2-Chloro-4-nitrophenyl- $\alpha$ -Maltoside

CNP = 2-Chloro-4-nitrophenol

#### **REAGENT COMPOSITION**

Tris buffer – 50 mmol/L  
CNP G<sub>3</sub> – 5 mmol/L  
KSCN – 100 mmol/L  
Activators & Stabilizer

#### **STORAGE & STABILITY**

Reagent is stable at 2 – 8°C till the expiry mentioned on the label.

#### **REAGENT PREPARATION**

Reagents are ready to use. Do not pipette with mouth.

#### **SAMPLE MATERIAL**

Serum, heparinised plasma, urine.

$\alpha$ -Amylase is reported to be stable in the sample for 5 days at 2–8°C. Separate serum from clot as soon as possible.

### **ASSAY PARAMETERS**

<b>Reaction</b>	Kinetic	<b>Interval</b>	30 sec
<b>Wavelength</b>	405 nm	<b>Sample Vol.</b>	0.025 ml
<b>Zero Settings</b>	Distilled water	<b>Reagent Vol.</b>	1.00 ml
<b>Incub. Temp</b>	37°C	<b>Standard</b>	-
<b>Incub Time</b>	-	<b>Factor</b>	4640
<b>Delay Time</b>	60 sec	<b>React. Slope</b>	Increasing
<b>Read Time</b>	-	<b>Linearity</b>	2000IU/L
<b>No. of read.</b>	3	<b>Units</b>	IU/L

### **ASSAY PROCEDURE**

Wavelength / filter : 405 nm (Hg 405nm) / violet

Temperature : 37°C

Light Path : 1 cm

### **FOR SERUM AS SAMPLE**

Pipette into clean dry test tube labelled as Test (T):

Addition Sequence	(T)37°C
Amylase Reagent (A <sub>1</sub> )	1.0 ml
Sample (S)	0.025 ml

Mix well and read the initial absorbance A<sub>0</sub> after 1 minute and subsequently 2 more readings with 30 seconds interval at 405 nm. Calculate the mean absorbance change per minute ( $\Delta$ Abs/30 seconds x 2)

## CALCULATIONS

$\alpha$ -Amylase activity in IU/L (Serum) =  $\Delta A/\text{min.} \times 4640$

## LINEARITY

The procedure is linear upto 2000 IU/L at 37°C. If the amylase activity is above 2000 IU/L, dilute the specimen suitably with normal saline. In such case the results obtained should be multiplied by dilution factor to obtain correct amylase activity.

## NOTE

Anticoagulants like Oxalate and EDTA bind Calcium, which is needed for  $\alpha$ -Amylase activity and should not be used. Heparin may be used. Saliva and sweat contain  $\alpha$ -Amylase. Avoid contamination of reagent and sample during use. Reagent should not be used if its absorbance exceeds 0.8 at 405 nm against distilled water.

## QUALITY CONTROL

To ensure adequate quality each run should include assayed normal and abnormal controls.

## NORMAL VALUE

Serum upto 140 IU/L

## REFERENCE

1. Jungi W.et.al. Biochem.22,109 (1089)
2. Winn-Deen E.S. David H.Signett(1988)

## PRESENTATION

Product Code	Pack Size	Amylase Reagent
AAS 0635	4 x 5 ml	4 x 5 ml

## PRODUCT FEATURES AT A GLANCE :

1. **Liquid stable Mono Reagent**
2. **Highest Linearity 2000 IU/L.**
3. **No Interference from Bilirubin, Glucose and Ascorbate**
4. **Suitable for semi and fully auto analyzers.**
5. **Convenient pack size - 4 x 5 ml.**
6. **Store at 2-8°C.**



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## **ASRITHA DIATECH INDIA PVT. LTD.**

IN VITRO DIAGNOSTIC REAGENTS

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