CALCIUM

ARSENAZO III

Intended use:
Calcium in the sample reacts with arsenazo III forming a coloured complex that can be measured by spectrophotometry.

Reagent Concentration:
R1: Reagent. 4 x 25 mL.
Arsenazo III 0.2 mmol/L,
imidazole 75 mmol/L.

Preparation and stability:
R1: Ready for use
Unopened kits: up to the expiation date at +15°C to +25°C.
Onboard stability: R1: 28 days.

Specimen:
Collect serum using standard sampling tubes.
Heparin or EDTA plasma. Separate serum or plasma from the clot or cells within one hour and analyse immediately, or store as follows:
Stability: < 3 days at +4°C
6 months at -20°C

Limitation interference:
Criterion: Recovery within ± 10% of initial value at an albumin concentration of 3.5g/dl. Icterus: No significant interference up to an index I of 92 (approximate bilirubin concentration: 92 mg/dl).
Hemolysis: No significant interference up to an index H of 1100 (approximate hemoglobin concentration: 1100 mg/dl).
Lipemia (Intralipid): No significant interference up to an index L of 1075 (approximate triglycerides concentration: 2150 mg/dl).There is poor correlation between turbidity and triglycerides concentration.

Testing procedure:
Applications for automated systems are available on request.
Materials provided
• Working solutions as described above
Additional materials required
• Calibrators and controls as indicated below
• 0.9% NaCl

Manual procedure		
Wavelength:	650 nm, (640 – 660 nm)	
Temperature:	+37°C	
Cuvette:	1 cm light path	
Zero adjustment:	Reagent blank/each series needs one reagent	
	Blank	Sample / Calibrator
Sample / Calibrator	-	10 µl
R1	1000 µl	1000 µl
Mix and incubate 3 minutes. Read the absorbance against blank within 30 minutes.		
Calculation: AA sample x Calibrator conc. = Calcium in g/dl AA Calibrator		

Measuring range:
Linearity : 16.0 mg/dl
Determine samples having higher concentrations via the rerun function. On instruments without rerun function, manually dilute samples with 0.9% NaCl solution(e.g. 1 + 1).
Multiply the result by the appropriate dilution factor (e.g. 2).

Reference value:
Serum and plasma: 8.5-10.5 mg/dL = 2.02-2.60 mmol/L
Each laboratory should investigate the transferability of the expected values to its own patient population and if necessary determine its own reference range. For diagnostic purposes, albumin results should always be assessed in conjunction with the patient's medical history, clinical examinations and other findings.

Analytical sensitivity (lower detection limit):
4 mg/dl – 16.0 mg/dl

Imprecision:
– Repeatibility (within run):

Calcium	CV	n
8.90 mg/dL = 2.22 mmol/L	0.9 %	20
13.29 mg/dL = 3.32 mmol/L	1.1 %	20

– Reproducibility (run to run):
Mean calcium concentration CV

Calcium	CV	n
8.90 mg/dL = 2.22 mmol/L	2.2 %	25
13.29 mg/dL = 3.32 mmol/L	2.2 %	25

– Trueness: Results obtained with this procedure did not show systematic differences when compared with a reference procedure. Details of the comparison experiments are available on request.
– Interferences: Bilirubin (< 20 mg/dL) do not interfere. Hemolysis (hemoglobin 2.5 g/L) and lipemia (10 g/L) interfere. Other drugs and substances may interfere3.

Method comparison:
A comparison of the BIOANALYTIC Calcium (y) with a commercial obtainable assay (x) gave the following result:
y = 0.914 x + 0.306; r =0.996

Quality Control:
Control Serum:
BIOCON N 5 x 5 ml #B10814
BIOCON P 5 x 5 ml #B10817

Calibration:
S1: 0.9% NaCl
S2: BIOCAL H 5 x 3 ml #B11895

Literature:
1. Doumas B.T., Watson W.A., Biggs H.G.. Albumin standards and the measurement of serum albumin with bromcresol green. Clin Chim Acta 1971 ;31 :87-96.
2. Glick M.R., Ryder K.W., Jackson SA. Graphical Comparisons of Interferences in Clinical Chemistry Instrumentation. Clin Chem 1986;32:470-474.
3. Grant G.H., Silverman L.M., Christenson R.H.. Amino acids and proteins. In: Tietz N.W. (ed.). Fundamentals of Clinical Chemistry, 3rd Philadelphia, Pa: W.B. Saunders, 1987:328-330.
4. Marshall WJ (ed.). Illustrated Textbook of Clinical Chemistry,3rd . London: Gower Medical Publishing, 1989:207-218.
5. Tietz NW (ed.). Clinical Guide to Laboratory Tests, 3rd . Philadelphia, Pa: WB Saunders, 1895:22-24.

Order information (Cat No.) :

CC360	AB360	B25065	B30065	B33066	B37066
SH360	BCA250	B25066	B30066	B34065	B80065
CR360	B21065	B27065	B31065	B35065	B80066
OL360	B21066	B27066	B32065	B36065	B80067
KL360	B22065	B28065	B32066	B36066	
BCA500	B24065	B28066	B33065	B37065	

Manufacturer
Diaclinica Diagnostik Kimya.San.Tic.Ltd.Şti
Adress : İkitelli O.S.B Mutsan San.Sit. M4 Blok No:17-19 Başakşehir/İSTANBUL
Tel:+90(212) 549 33 88- Fax:+90 (212) 549 55 50
Web :www.diaclinica.com

SYMBOLS

IVD	for in vitro diagnostic use only
LOT	lot of manufacturing
REF	code number
	storage at temperature interval
	expiration date (year/month)
	warning, read enclosed documents
	Read the directions

ISO 9001:2015
ISO 13485:2016