

OPERATOR TIPS
**Stability of Analytes in Processed Samples
(Serum/Plasma unless Otherwise Noted)**

Analyte	Room Temp:25°C	Refrigerated: 2-8°C	Frozen: -20°C†	Reference
Acetaminophen (ACTM)	8 hours	2 weeks		NCCLS, NACB
Albumin (ALB and ALBm)	7 days	30 days	Indefinite	CAP
Alkaline Phosphatase (ALP)	4 days*	4 days*	4 days*	CAP
Alanine Aminotransferase (ALT and ALT-)	3 days	7 days	Not Recommended	CAP
Ammonia (AMM)	30 minutes	N/A	N/A	SYNCHRON CIS
Amylase (AMY)	7 days	30 days	Not Recommended	CAP
Apolipoprotein A-1 (ApoA)	4 hours	7 days	1 year at -70°C	CAP
Apolipoprotein B (ApoB)	4 hours	7 days	1 year at -70°C	CAP
Antistreptolysin-O (ASO-)	8 hours	2 days		NCCLS
Aspartate Aminotransferase (AST and AST-)	3 days	7 days	3 months	CAP
Blood Urea Nitrogen (BUN and BUNm)	1 day	5 days	6 months	CAP
Calcium (CALC)	7 days	22 days	1 year	CAP
Carbamazepine (CAR)	8 hours	2 days		NCCLS
Cholinesterase (CHE)	6 hours	1 week	6 months at -70°C	CAP
Cholesterol (CHOL)	7 days	7 days	3 months	CAP
Creatine Kinase (CK and CK-)	4 hours	12 hours	3 days	NCCLS
Creatine Kinase – Mb (CKMB)	4 hours	8 hours	N/A	NCCLS
Chloride (CL)	7 days	4 weeks	Indefinite	CAP
Chloride (CL) – CSF	Analyze without Delay	7-10 days	7-10 days	Tietz
Carbon Dioxide (CO ₂)	1 day	3 days	1 month	CAP
Complement 3 (C3)	6 hours	1 day	1 week	NCCLS
Complement 4 (C4)	6 hours	1 day	1 week	NCCLS
Creatinine (CREA, CREm, CR-S)	5 days	1 month	Indefinite	CAP
C-Reactive Protein (CRP, CRPH)	4 hours	3 days	6 months	CAP
Direct Bilirubin (DBIL)**	4 hours	7 days	6 months	CAP
Digoxin (DIGN) [†]	8 hours	1 day	2 weeks	NCCLS, NACB
Ethanol (ETOH)	Analyze without Delay	N/A	N/A	SYNCHRON CIS
Gentamicin (GEN)	2 hours			NACB
γ-Glutamyl Transferase (GGT)	7 days	7 days	2 months	CAP
Glucose (GLU and GLUCm)	1 day	7 days	1 year	CAP
Glucose (GLU and GLUCm) - CSF	1 hour	7 days	6 months	CAP
Haptoglobin (HPT)	8 hours	3 days		NCCLS
Hemoglobin A1c (HbA1c, HbA1c2) Whole Blood	8 hours	2 days	3 months	NCCLS
HDL Cholesterol (HDL)	8 hours	2 days	3 months	NCCLS
Total Iron Binding Capacity (IBCT)	1 week	2 weeks	3 months	CAP

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Immunoglobulin A (Ig-A)	1 week	2 weeks	3 months	CAP
Immunoglobulin G (Ig-G)	1 week	2 weeks	3 months	CAP
Immunoglobulin M (Ig-M)	1 week	2 weeks	3 months	CAP
Iron (FE)	4 days	1 week	3 months	CAP
Lactate (LAC) Plasma (sep. within 15 min.)	8 hours	2 weeks	1 month	CAP
Lactate (LAC) - CSF	Analyze without Delay	7-10 days	7-10 days	Tietz
Lactate Dehydrogenase (LD)	2 days	Not Recommended	Not Recommended	CAP
LDL Cholesterol (LDLD)	8 hours	5 days	Freeze at -80°C	NCCLS
Lipase (LIP)	1 week	3 weeks	5 months	CAP
Lithium (LI)	8 hours	1 week	1 year	Tietz
Magnesium (MG)	1 week	1 week	1 month	CAP
Micro Total Protein (M-TP) - CSF	Analyze without Delay	7-10 days	7-10 days	Tietz
Prealbumin (PAB)	7 days	30 days	6 months	CAP
Pancreatic Amylase (PAM)	7 days	30 days	Not Recommended	CAP
Phenobarbitol (PHE)	8 hours	2 days		NCCLS
Phosphorus (PHS and PHOSm)	3 days	1 week	2 months	CAP
Phenytoin (PHY)	8 hours	2 days		NCCLS
Potassium (K)	6 weeks	6 weeks	1 year	CAP
Rheumatoid Factor (RF)	8 hours		Not Recommended	NCCLS
Salicylate (SALY)	8 hours	2 weeks		NACB
Sodium (NA)	4 days	1 week	6 months	CAP
Thyroxine (T4)	8 hours	2 days		NCCLS
Total Bilirubin (TBIL)**	4 hours	1 week	6 months	CAP
Triglycerides GPO (TG and TG-B)	3 days	1 week	6 months	CAP
Theophylline (THE)	8 hours	2 days		NCCLS
Tobramycin (TOB)	2 hours			NACB
Total Protein (TP and TPm)	4 hours	3 days	6 months	CAP
Total Protein (TPm) - CSF	4 hours	3 days	6 months	CAP
Transferrin (TRFN)	8 hours	3 days	Indefinitely	CAP
T-Uptake (TU)	8 hours	2 days		NCCLS
Urea (UREA)	3 days	5 days	6 months	CAP
Uric Acid (URIC)	3 days	5 days	6 months	CAP
Vancomycin (VANC)	2 hours			NACB
Valproic Acid (VPA)	8 hours	2 days		NCCLS

†Frozen Samples should be thawed only once. Analyte deterioration may occur in samples repeatedly frozen and thawed.

* Serum ALP increases slowly with storage. Generally, it is best to analyze for ALP activity the day of collection.

** Protect from Light

NACB = The National Academy of Clinical Biochemistry, *Guidelines for Therapeutic Drug Monitoring Services*, (1999).

NCCLS = The National Committee for Clinical Laboratory Standards, *Procedures for the Handling and Processing of Blood Specimens, Approved Guideline*, NCCLS publication H18-A, Villanova, PA (1990).

CAP = The College of American Pathologists, *Patient Preparation and Specimen Handling Fascicle VI, Chemistry/Clinical Microscopy*, College of American Pathologists (1992).

Tietz = Tietz N.W. ed., *Fundamentals of Clinical Chemistry*, 3rd Edition, W.B. Saunders, Philadelphia, PA (1987).