

Sample Stability Chart for Chemistry Analytes (Plasma/Serum)

Analytes	Unspun Blood at Room Temp	Plasma/serum at			Special Handling/Notes	Source
		20-25°C	2-8°C	-20°C		
Acetaminophen	No data	1 d	7 d	6 m	Only 1 freeze thaw cycle	Roche Package Insert
Albumin	6 d	2.5 m	5 m	4 m		WHO/Roche Package Insert
ALP	4 d	7 d	7 d	2 m		WHO/Roche Package Insert
Alpha 1 Antitrypsin	11 d	3 m	5 m	3 m		WHO
Alphafetoprotein (AFP)	No data	5 d	14 d	3 m	Up to 3 freeze thaw cycles	Roche Package Insert
ALT	4 d ↓	3 d	7 d	7 d		WHO/Roche Package Insert
Ammonia	15 min in EDTA	30 min	2 h	3 w	Samples must be collected on ice, spun and assayed within 30 min	WHO/Roche Package Insert
Amylase	4 d ↓	7 d	7 d	1 y		WHO
ASO	No data	2 d	8 d	6 m		Roche Package Insert
AST	7 d ↓	4 d	7 d	3 m		WHO
Betahydroxybutyrate	Unstable	No data	1 w	No data		Stanbio Laboratories product insert
Bilirubin Direct	Unstable ↓	2 d	7 d	6 m	Darkness required when stored >8 h	WHO/Roche Package Insert
Bilirubin Total	Unstable ↓	1 d	7 d	6 m	Darkness required when stored >8 h	WHO/Roche Package Insert
BUN	No data	7 d	7 d	1 y		Roche Package Insert
C3	1 d	4 d	8 d	8 d		WHO
C4	1 d	2 d	8 d	3 m		WHO
CA 125	2 d ↓	3 d	5 d	6 m	Only 1 freeze thaw cycle	WHO/Roche Package Insert
CA 15-3	No data	2 d	5 d	3 m	Only 1 freeze thaw cycle	Roche Package Insert
CA 19-9	7 d ↓	5 d	14 d	3 m	Only 1 freeze thaw cycle	WHO/Roche Package Insert
Calcium	2 d ↓	7 d	3 w	8 m		WHO/Roche Package Insert
Carbamazepine	2 d	2 d	7 d	4 w	Only 1 freeze thaw cycle	Roche Package Insert
CEA	7 d	7 d	14 d	6 m	Up to 3 freeze thaw cycles	WHO/Roche Package Insert
Ceruloplasmin	No data	8 d	2 w	1 y		WHO
Chloride (Cl)	1 d ↓	7 d	7 d	1 y		WHO/Roche Package Insert
Cholesterol	7 d ↑	7 d	7 d	3 m		WHO/Roche Package Insert
CK	7 d ↓	2 d	7 d	4 w		Roche Package Insert
CKMB	7 d ↓	2 d	7 d	1 y	Only 1 freeze thaw cycle	WHO
CO2	<15 min ↓	No data	2 h	No data	Use closed gas tight tubes	WHO
Cortisol	7 d	1 d	4 d	12 m	Only 1 freeze thaw cycle	Roche Package Insert
Creatinine	2-3 d ↑	7 d	7 d	3 m		WHO/Roche Package Insert
Digoxin	No data	2 w	3 m	6 m		WHO
Estradiol	1 d	1 d	3 d	1 y	Only 1 freeze thaw cycle	WHO/Roche Package Insert
Ethanol	2 w	2 w	6 m	6 m	More stable in NaF tubes. Keep tubes closed.	WHO
Ferritin	No data	7 d	7 d	1 y	Up to 2 freeze thaw cycles	WHO/Roche Package Insert
Folate	30 min ↓	2 h	2 d	4 w	Only 1 freeze thaw cycle	WHO/Roche Package Insert
Free T3	No data	5 d	2 w	3 m	Only 1 freeze thaw cycle	WHO/Roche Package Insert
Free T4	No data	5 d	7 d	1 m	Only 1 freeze thaw cycle	Roche Package Insert
FSH	7 d ↓	2 w	2 w	1 y	Only 1 freeze thaw cycle	WHO
Gentamicin	4 h	4 h	4 w	1 m		WHO
GGT	1 d ↓	7 d	7 d	1 y		WHO/Roche Package Insert
Glucose	10 min ↓	8 h	3 d	No data		Roche Package Insert
Haptoglobin	8 d	3 m	8 m	3 m		WHO/Roche Package Insert
HCG	1 d	5 d	14 d	1 y	Only 1 freeze thaw cycle	Roche Package Insert
HDL	2 d ↑	3 d	7 d	3 m		Roche Package Insert
Hemoglobin A1c	3 d (EDTA blood)	3 d	7 d	6 m		WHO/Roche Package Insert
Hepatitis A IgM Ab	No data	7 d	14 d	3 m	Up to 5 freeze thaw cycles	Roche Package Insert
Hepatitis A Total Ab	No data	6 d	14 d	3 m	Up to 5 freeze thaw cycles	Roche Package Insert
Hepatitis B Core IgM Ab	No data	No data	7 d	3 m	Up to 6 freeze thaw cycles	Roche Package Insert
Hepatitis B Core Total Ab	No data	No data	5 d	2 m	Up to 4 freeze thaw cycles	Roche Package Insert
Hepatitis B Surface Ab	No data	No data	6 d	3 m	Up to 6 freeze thaw cycles	Roche Package Insert
Hepatitis B Surface Ag	No data	6 d	14 d	6 m	Up to 6 freeze thaw cycles	Roche Package Insert
Hepatitis C Ab	No data	3 d	21 d	3 m	Up to 6 freeze thaw cycles	Roche Package Insert
Homocysteine	1 h ↑	4 d	4 w	4 y		WHO/Roche Package Insert
hsCRP / CRP	No data	11 d	2 m	3 y		WHO/Roche Package Insert
IgA	8 d	8 m	8 m	8 m		WHO
IgG	11 d	4 m	8 m	8 m		WHO

IgM	17 d	2 m	4 m	6 m		WHO
Insulin	15 min	1 d	6 d	6 m		WHO
Iron	2h ↑	7 d	3 w	1 y		WHO/Roche Package Insert
Lactic acid (Plasma only)	Unstable	8 h (separated from cells)	14 d	No data	Samples must be collected on ice, spun and assayed within 30 min	Roche Package Insert
LDH	1 h ↑	7 d	4 d	6 w		WHO/Roche Package Insert
LDL	1 d ↓	1 d	7 d	3 m		WHO
LH	7 d	5 d	14 d	6 m	Only 1 freeze thaw cycle	Roche Package Insert
Lipase	No data	7 d	3 w	1 y		WHO/Roche Package Insert
Lithium	1 h ↓	1 d	7 d	6 m	Do not use Li-heparin tubes	WHO/Roche Package Insert
Magnesium	1 d ↑	7 d	7 d	1 y		WHO/Roche Package Insert
Methotrexate	No data	No data	2 w	1 m	Up to 3 freeze thaw cycles	ARK Package Insert
Myoglobin	1 h ↓	8 d	14 d	12 m	Only 1 freeze thaw cycle	Roche Package Insert
NT-proBNP	2 d	3 d	6 d	24 m		WHO/Roche Package Insert
Osmolality	No data	3 h	1 d	3 m		WHO
Phenobarbital	2 d	6 m	6 m	6 m		WHO
Phenytoin	2 d	2 d	1 m	5 m		WHO
Phosphorus	1 h ↑	1 d	4 d	1 y		WHO/Roche Package Insert
Potassium (K)	1 h ↑	14 d	14 d	1 y		WHO/Roche Package Insert
Prealbumin	No data	3 d	6 m	1 y		WHO
Progesterone	7 d	1 d	5 d	6 m	Only 1 freeze thaw cycle	Roche Package Insert
Procalcitonin	No data	1 d	2 d	3 m	Only 1 freeze thaw cycle	Roche Package Insert
Prolactin	2 d	5 d	14 d	6 m	Only 1 freeze thaw cycle	WHO/Roche Package Insert
PSA Free	2 h	8 h	5 d	3 m	Only 1 freeze thaw cycle	WHO/Roche Package Insert
PSA Total	1 d	8 h	7 d	6 m	Only 1 freeze thaw cycle	WHO/Roche Package Insert
Pseudocholinesterase	No data	6 h	7 d	1 y		Roche Package Insert
PTH	6 h	8 h	2 d	6 m		WHO/Roche Package Insert
Rheumatoid Factor	No data	1 d	8 d	3 m	Only 1 freeze thaw cycle	WHO
Salicylate	No data	7 d	2 w	6 m		WHO/Roche Package Insert
Sodium (Na)	4 d ↓	14 d	14 d	1 y		WHO/Roche Package Insert
SARS-CoV-2 Total Antibody	No data	3 d	7 d	28 d	Only 1 freeze thaw cycle	Roche Package Insert
T3	No data	8 d	14 d	12 m	Only 1 freeze thaw cycle	Roche Package Insert
T4	7 d	4 d	8 d	12 m	Only 1 freeze thaw cycle	WHO/Roche Package Insert
Testosterone	1 d ↑	5 d	14 d	6 m	Only 1 freeze thaw cycle	WHO/Roche Package Insert
Theophylline	No data	3 m	3 m	3 m		WHO
Tobramycin	No data	<2 h	3 d	1 m		WHO
Total Protein	No data	No data	4 w	24 w		Roche Package Insert
TPO Antibody	No data	8 d	8 d	24 m	Only 1 freeze thaw cycle	Roche Package Insert
Transferrin	11 d	4 m	8 m	6 m		WHO
Triglycerides	7 d ↑	2 d	7 d	1 y		WHO
Troponin T (Gen 5)	8 h	1 d	1 d	12 m	Only 1 freeze thaw cycle	Roche Package Insert
TSH	7 d	8 d	14 d	24 m	Only 1 freeze thaw cycle	WHO/Roche Package Insert
T-Uptake	No data	8 d	14 d	24 m	Only 1 freeze thaw cycle	Roche Package Insert
Uric Acid	7 d ↑	3 d	7 d	6 m		WHO
Valproic Acid	2 d	2 d	7 d	3 m		WHO/Roche Package Insert
Vancomycin	No data	2 d	14 d	12 m	Up to 5 freeze thaw cycles	Roche Package Insert
Vitamin B12	No data	2 h (Protect from light)	2 d	2 m	Only 1 freeze thaw cycle	WHO/Roche Package Insert
Vitamin D 25 OH	3 d	3 d	4 d	24 w	Only 1 freeze thaw cycle	WHO/Roche Package Insert

↑ = Increased values may be measured in comparison to recommended samples

↓ = Decreased values may be measured in comparison to recommended samples

Sample Stability Chart for Chemistry Analytes (CSF/Urine)

Analytes	Storage Temperature			Source
	20-25°C	2-8°C	-20°C	
Albumin (CSF)	No data	3 d	6 m	Roche Package Insert
Albumin (Urine)	7 d	1 m	6 m	Roche Package Insert
Amylase (Urine)	2 d	10 d	No data	Roche Package Insert
BUN (Urine)	2 d	7 d	1 m	Roche Package Insert
Calcium (Urine)	2 d	4 d	3 w	Roche Package Insert
Chloride (Urine)	7 d	7 d	1 y	Roche Package Insert
Creatinine (Urine)	2 d	6 d	6 m	Roche Package Insert
IgG (CSF)	1 d	7 d	No data	Roche Package Insert
Magnesium (Urine)	3 d	3 d	1 y	Roche Package Insert
Potassium (Urine)	14 d	14 d	1 y	Roche Package Insert
Sodium (Urine)	14 d	14 d	1 y	Roche Package Insert
Phosphorus (Urine)	3 d	6 m	No data	Roche Package Insert/In-house Study
Total Protein (CSF)	1 d	6 d	1 y	Roche Package Insert
Total Protein (Urine)	1 d	7 d	1 m	Roche Package Insert
Uric acid (Urine)	4 d (Upon NaOH addition)	3 d	No data	Roche Package Insert/In-house Study

Updated on Nov 13, 2018