



Center for Phlebotomy Education's Analyte Stability Chart

Stability *before* centrifugation and separation from cells

ANALYTE	ROOM TEMP	REFRIGERATED
ALBUMIN	AT LEAST 6 HOURS ¹	
ALT	24 HOURS ¹	
AST	24 HOURS ¹	
BICARBONATE	6 HOURS ¹	7 DAYS ⁴
BILIRUBIN	3 DAYS ⁴	
CALCIUM (ionized)	2 HOURS ¹	
CHLORIDE	6 HOURS ¹	
CREATININE	24 HOURS ¹	
GLUCOSE	2 HOURS ¹	< 2 HOURS ¹
GLUCOSE (in fluoride tube)	1 WEEK ⁴	1 WEEK ⁴
HDL CHOLESTEROL	6 HOURS ^{1,2}	
IRON	8 HOURS ¹	
LDH	2 HOURS ¹	
MAGNESIUM (ionized)	6 HOURS ¹	5 DAYS ¹
PHOSPHOROUS	3 HOURS ^{1,2}	
POTASSIUM	2 HOURS ^{1,3}	< 2 HOURS ¹
PROTHROMBIN TIME	24 HOURS ⁵	7 HOURS ³
aPTT	4 HOURS ⁵	4 HOURS
aPTT (patient on unfractionated heparin)	1 HOUR ⁵	1 HOUR ⁵
SODIUM	7 DAYS ⁴	1 DAY ^{3,4}
TOTAL PROTEIN	48 HOURS ¹	
TRICYCLIC ANTIDEPRESSANTS	N/A	6 DAYS ¹

Stability *after* separation from cells⁴

ANALYTE	ROOM TEMP	REFRIGERATED
ALT	1 DAY	3 DAYS
ALK PHOS	4 HRS	N/A
AMYLASE	1 WEEK	2 MONTHS
AST	3 DAYS	1 WEEK
CALCIUM	7 DAYS	10 DAYS
BILIRUBIN	2 DAYS	7 DAYS
FE/TIBC	N/A	1 WEEK
FREE T4	1 WEEK	N/A
GGT	1 MONTH	1 MONTH
HCG	N/A	4 DAYS
LDH	2-3 DAYS	N/A
POTASSIUM	2 WEEKS	2 WEEKS
PHOSPHOROUS	4 DAYS	1 WEEK
TSH	N/A	4 DAYS
T3	2 WEEKS	N/A
URIC	3 DAYS	7 DAYS

Stability of whole blood analytes

TEST	ROOM TEMP	REFRIGERATED
WBC (normal or elevated counts)	3 DAYS TO 1 WEEK ⁸	1 WEEK ⁴
WBC (low counts)	<1 DAY ⁸	1 WEEK ⁴
AUTOMATED DIFFERENTIAL	<1 DAY ⁸	N/A
RBC	AT LEAST 1 WEEK ^{4,8}	AT LEAST 1 WEEK ⁴
HGB	AT LEAST 1 WEEK ^{4,8}	AT LEAST 1 WEEK ⁴
HCT	1-2 DAYS ^{4,8}	5 DAYS ⁴
PLT	<1 DAY ⁴ AT LEAST 4 DAYS ⁸	AT LEAST 24 HOURS ⁴
MCV	1-2 DAYS ^{4,8}	AT LEAST 24 HOURS ⁴
MCH	AT LEAST 1 WEEK ⁸	N/A
SED RATE	4 HOURS ⁶	12 HOURS ⁶
RETIC	6 HOURS ⁷	72 HOURS ⁷

1. NCCLS. *Procedures for the handling and processing of blood specimens*. Approved Standard, H18-A3 Wayne, PA, 2004.
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3. Narayanan S. The preanalytic phase an important component of laboratory testing. *Am J Clin Pathol* 2000;113:429-452.
4. Young D. *Effects of Preanalytical Variables on Clinical Laboratory Tests*. AACC Press. Washington, DC. 1997.
5. NCCLS. *Collection, transport, and processing of blood specimens for testing plasma-based coagulation assays*; Approved guideline. H21-A4. Wayne, PA, 2003.
6. Baer D. (Ed) Tips from the clinical experts. *MLO* 2000;32(5):14.
7. Koepke JA. Update on reticulocyte counting. *Lab Med*;1999;(30):339-343.
8. Gulati G, Hyland L, Kocher W, Schwarting R. Changes in automated complete blood cell count and differential leukocyte count results induced by storage of blood at room temperature. *Arch Pathol Lab Med* 2002;126:336-42.

Note: Some facilities may have conducted studies that demonstrate longer stabilities. List your own facility's exceptions below:

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