

Due to the intense red color of hydroxocobalamin (OHCob) and its absorbance at 352 and 525 nm, interference studies were performed on common Chemistry and Hematology tests at Legacy Laboratories. The following tables summarize these findings. If the test is not listed in the tables below, then the degree of interference is unknown. Delta is an estimate of the amount of change of that analyte at 1000 mg/L OHCob. Healthcare providers should interpret patient results with caution since these results are only an estimate of OHCob interference for each of the analytes. The actual *in vivo* concentration of OHCob in the patient's blood or urine is based on many factors including, but not limited to, dose, dose rate, time since administration, and genetics. The tables are organized as described below:

TABLE	DEPARTMENT	MATRIX
1	Chemistry	Serum or plasma
2	Chemistry	Urine
3	Immunochemistry	Serum, plasma or urine
4	Respiratory Therapy	Heparinized whole blood
5	Hematology	EDTA whole blood
6	Coagulation	Citrated plasma
7	Urinalysis	Urine

Table 1: OHCob Interference on Blood Chemistry Tests – Various concentrations of OHCob was added to pooled Serum and Heparinized Plasma specimens.

INTERFERENCE	ASSAY	DELTA
	Albumin	<6%
	Alkaline Phosphatase (ALP)	<6%
	CO ₂ , Total (Bicarbonate)	<6%
	Calcium (Ca)	<6%
	Chloride (CI)	<6%
	GGT	<6%
	Glucose	<6%
None	Lactate	<6%
	Lactate Dehydrogenase (LDH)	<6%
	Lipase	<6%
	Potassium (K)	<6%
	Protein, Total (TP)	<6%
	Sodium (Na)	<6%
	Urea Nitrogen (BUN)	<6%
	Triglyceride	<6%
Ingrago	Cholesterol, Total	51.0%
Increase	Ethanol	11.0%

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INTERFERENCE	ASSAY	DELTA
	Magnesium	34.0%
	Phosphorus	8.0%
	Prealbumin	11.0%
	ALT	-5 to -73%
	Amylase	-32.0%
	AST	-1 to -51%
	Bilirubin, Direct	-0.1 to -0.2 mg/dL
Decrease	Bilirubin, Total	-0.1 to -0.2 mg/dL
	Creatinine	-0.1 to -0.2 mg/dL
	Creatine Kinase (CK)	-15.0%
	Iron	-8.0%
	Uric Acid	-28.0%

Table 2: OHCob Interference on Urine Chemistry Tests – Various concentrations of OHCob was added to pooled urine specimens.

INTERFERENCE	ASSAY	DELTA
	Calcium (U Ca)	<6%
	Chloride (U CI)	<6%
	Creatinine	<6%
	Glucose	<6%
None	Phosphorus	<6%
	Potassium (U K)	<6%
	Sodium (U Na)	<6%
	Urea Nitrogen (UUN)	<6%
	Uric Acid	<6%
	Magnesium (U Mg)	0.6 mg/dL
Increase	Microalbumin	7.0%
	Protein, Total (UTP)	8.0%
Decrease	Amylase	-9.0%

Table 3: OHCob Interference on Blood and Urine Immunochemistry Tests – Various concentrations of OHCob was added to pooled Serum, Heparinized Plasma or EDTA plasma specimens.

INTERFERENCE	ASSAY	DELTA	
None	BNP, Blood	<6%	
None	Total B-hCG, Blood	<6%	

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INTERFERENCE	ASSAY	DELTA
Degraped	CK-MB, Blood	-15.0%
Decreased	Troponin I, Blood	-8.0%
Unpredictable*	Myoglobin, Blood	na
Oripredictable	Myoglobin, Urine	na

Table 4: OHCob Interference on Respiratory Therapy Tests and Blood Gases - Various concentrations of OHCob was added to pooled venous whole blood.

INTERFERENCE	ASSAY	METHOD	DELTA
	Base Excess	Siemens RapidPoint	<6%
	Calcium, Ionized	Siemens RapidPoint	<6%
	Chloride	Siemens RapidPoint	<6%
None	HCO3 ⁻	Siemens RapidPoint	<6%
None	Glucose	Siemens RapidPoint	<6%
	Sodium	Siemens RapidPoint	<6%
	рН	Siemens RapidPoint	<6%
	Potassium	Siemens RapidPoint	<6%
Decrease	pO2	Siemens RapidPoint	-7.0%
Unpredictable*	pCO2	Siemens RapidPoint	na

Table 5: OHCob Interference on Hematology Tests - Various concentrations of OHCob was added to EDTA whole blood.

INTERFERENCE	ASSAY	METHOD	DELTA
	WBC	Sysmex	<2%
	RBC	Sysmex	<1%
	Hematocrit	Sysmex	<1%
	MCV	Sysmex	<1%
	RDW-CV	Sysmex	<1%
	Platelets	Sysmex	<2%
None	MPV	Sysmex	<1%
	Neutrophils %	Sysmex	<1%
	Neutrophils #	Sysmex	<2%
	Lymphocytes %	Sysmex	<1%
	Lymphocytes #	Sysmex	<3%
	Monocytes %	Sysmex	<2%
	Monocytes #	Sysmex	<1%

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INTERFERENCE	ASSAY	METHOD	DELTA
	Eosinophils %	Sysmex	<4%
	Eosinophils #	Sysmex	<1%
	Basophils %	Sysmex	<5%
	Basophils #	Sysmex	<1%
Ingraga	Hemoglobin	Sysmex	6.0%
Increase	Reticulocytes %	Sysmex	5% to 15%

Table 6: OHCob Interference on Coagulation Tests - Various concentrations of OHCob was added to Citrated plasma.

INTERFERENCE	ASSAY	DELTA
Increase	PT-INR	>30%
	PTT	>35%
Decrease	Fibrinogen	>-15%

Table 7: OHCob Interference on Urinalysis - Various concentrations of OHCob was added to Urine.

INTERFERENCE	ASSAY	DELTA
	рН	>10%
	Glucose	>10%
	Protein	>10%
	Erythrocytes	>10%
Increase	Leukocytes	>10%
	Ketones	>10%
	Bilirubin	>10%
	Urobilinogen	>10%
	Nitrate	>10%