

## Clinical Chemistry Section - CVRL Backweston Biochemistry Reference Ranges For Blood

\*\* S = Serum; H - Heparinised; E = EDTA; W/B = Whole Blood; OxF = Oxalate fluoride

Analyte	Units	Blood ** Sample	Bovine	Ovine	Equine	Canine	Porcine
A/G ratio	-		0.5-1.5	0.5-1.5	0.5-1.5	0.5-1.5	0.5-1.5
Albumin	g/L	S,H,E	23-37	28-34	27-33	35-40	16-38
ALP	iu/L	S,H	32-1300	32-1300	32-170	32-113	32-170
ALT	iu/L	S,H,E	18-97	15-35	15-35	24-76	90-155
AST	iu/L	S,H,E	38-120	120-150	170-350	40-60	35-50
BHB	m mol/L	S,H,E	<0.9	<1.1	-	-	-
Calcium	m mol/L	S	2.1-3.1	2.1-3.1	2.5-3.35	2.1-2.8	2.3-3.3
Chloride	m mol/L	S,H	97-111	95-103	89-106	105-115	94-106
Copper	μ mol/L	S	9.4-24	9.4-18.8	11-27	12-21	9.4-27

Analyte	Units	Blood **	Bovine	Ovine	Equine	Canine	Porcine
		Sample					
Copper	μ mol/L	W/B	10.99-26.6	9.42-18.8	15-27.9	14.13-21.98	10.99-29.8
Creatinine	μ mol/L	S,H,E	86-175	106-167	106-167	40-130	86-230
CPK	iu/L	S,H,E	50-130	50-130	85-310	50-130	50-130
GGT	iu/L	S,E	18-55	18-45	27-75	10-27	18-90
GLDH	u/L	S	< 25	<20	<20	-	<20
Globulin	m mol/L	S,H,E	31-51	32-43	23-31	20-33	24-57
Glucose	m mol/L	OxF	2.5-4.16	2.2-3.6	2.9-5.2	2.5-5.5	4.2-6.1
In. Phosphate	m mol/L	OxF	1.4-2.5	1.8-2.5	1-1.8	1.8-2.1	1.7-3.1
Lead	μ mol/L	W/B	<2.41	<2.41	<2.41	<2.41	<2.41
Magnesium	m mol/L	S	0.65-1.2	0.7-1.23	0.8-1.2	0.69-1.2	0.9-1.6

Analyte	Units	Blood **	Bovine	Ovine	Equine	Canine	Porcine
		Sample					
Potassium	m mol/L	S	3.6-5.6	4-5.5	2.7-5.9	3.6-5.6	4-5.4
Selenium	μ mol/L	W/B	0.75-3.0	0.75-3.0	0.75-3.0	0.75-3.0	0.75-3.0
Sodium	m mol/L	S	136-145	142-160	134-150	139-154	142-148
Tot. Protein	g/L	S,H,E	57-83	60-75	52-64	49-79	60-85
Urea	m mol/L	S,H,E	2.65-6.89	2.65-6.64	2.5-8.3	2.6-7.4	2.6-7.96
Zinc	μ mol/L	S,H	5-25	5-25	5-25	5-25	5-25

\*\* S = Serum; H - Heparinised; E = EDTA; W/B = Whole Blood; OxF = Oxalate fluoride

## Clinical Chemistry Section - CVRL Backweston Biochemistry Reference Ranges For Tissues

Bo = Bone; Br = Brain; H = Hair; K = Kidney; L = Liver; Ur = Urine; Vit H = Vitreous humor.

Analyte	Units	Tissue Sample	Bovine	Ovine	Equine	Canine	Porcine
Arsenic	μ mol/Kg	L	0-40	0-40	0-40	0-40	0-40
Calcium	%	Bo					
Chloride		Br					
Cobalt	μ mol/Kg	L	0.7-5.0	0.7-5.0	0.7-5.0	0.5-3.0	0.5-3.0
Copper	m mol/Kg	L	0.06-2.5	0.06-2.5	0.05-0.2	0.05-0.2	0.05-0.2
In. Phosphate	%	Bo					
Lead	μ mol/Kg	K,L	<24	<24	<24	<24	<24
Magnesium	%	Bo	0.45-1	0.45-1	-	-	-
Magnesium	m mol/L	Ur, Vit H CSF	>1	-	-	-	-
Molybdenum		L					

Analyte	Units	Tissue Sample	Bovine	Ovine	Equine	Canine	Porcine
Selenium	μ mol/Kg	K	5-20	5-20	5-20	5-20	5-20
Selenium	μ mol/Kg	L	0.5-1.2	0.5-1.2	0.5-1.2	0.5-1.2	0.5-1.2
Selenium	μ mol/Kg	H	4-60	4-60	4-60	4-60	4-60

Bo = Bone; Br = Brain; H = Hair; K = Kidney; L = Liver; Ur = Urine; Vit H = Vitreous humor.

Tissue results are presented on a wet matter (WM) basis.