



BEAUFORT COTTAGE LABORATORIES REFERENCE RANGES

3 YEAR-OLD THOROUGHBRED HORSES IN TRAINING

Clinical Pathology Reference Ranges – Means & Ranges

Test	Abbreviation	Units	Mean	Range
Total erythrocytes	RBC	x10 ¹² /l	9.7	8.6-10.5
Packed cell volume	PCV	l/l	0.40	0.35-0.43
Haemoglobin	Hb	g/dl	14.9	13.0-16.1
Mean cell volume	MCV	fl	40.7	39.5-43.0
Mean cell haemoglobin concentration	McHc	g/dl	37.8	36.6-38.8
Mean cell haemoglobin	McH	pg	15.4	14.9-16.2
Total leucocytes	WBC	x10 ⁹ /l	8.2	6.9-9.8
Segmented neutrophils	Segs	x10 ⁹ /l	4.6	3.9-5.2
	Segs	%	56	48-64
Lymphocytes	Lymphs	x10 ⁹ /l	2.8	2.3-3.4
	Lymphs	%	35	28-42
Monocytes	Monos	x10 ⁹ /l	0.36	0.2-0.56
	Monos	%	4	2-6
Eosinophils	Eos	x10 ⁹ /l	0.1	0-0.2
	Eos	%	1	1-2
Platelets	Plts	x10 ⁹ /l	170	127-206
Plasma viscosity	PV	mPa	1.45	1.35-1.55
Total Protein	TSP	g/l	62	58-67
Albumin	Alb	g/l	38	35-40
Globulin	Glob	g/l	25	22-29
Alpha 1 globulin	x1 glob	g/l	1.3	0.9-1.7
Alpha 2 globulin	x2 glob	g/l	6.3	5.1-7.8
Beta 1 globulin	x1 glob	g/l	6.7	4.5-8.0
Beta 2 globulin	x2 glob	g/l	3.3	2.5-5.1
Gamma globulin	x glob	g/l	7.0	5.4-9.6
Plasma fibrinogen	Fib	g/l	1.8	1.4-2.3
Serum amyloid A	SAA	mg/l	1.3	0-20
Aspartate amino transferase	AST	iu/l	467	289-630
Creatinine kinase	CK	iu/l	390	156-875
Lactate dehydrogenase	LD	iu/l	638	430-883
LD isoenzyme 1	LD1	% total LD	11	6-17
LD isoenzyme 2	LD2	% total LD	24	19-27
LD isoenzyme 3	LD3	% total LD	39	33-43
LD isoenzyme 4	LD4	% total LD	20	16-23
LD isoenzyme 5	LD5	% total LD	6	1-18

Test	Abbreviation	Units	Mean	Range
Gamma glutamyl transferase	GGT	iu/l	27	13-47
Glutamate dehydrogenase	GLDH	iu/l	7	3-12
Serum alkaline phosphatase	SAP	iu/l	375	277-451
Intestinal alkaline phosphatase	IAP	iu/l	89	65-107
	IAP	% total SAP	22.8	<24
Urea	Urea	mmol/l	5.4	3.9-6.4
Creatinine	Creat	µmol/l	143	118-167
Bromsulphalein half time clearance	BSP	Seconds	168	138-198
Glucose	Glu	mmol/l	4.7	3.4-5.9
Total bilirubin	TBili	µmol/l	26	13-39
Direct bilirubin	DBili	µmol/l	10	4-15
Bile acids	BACids	µmol/l	5.2	0-8.0
Cholesterol	Chol	mmol/l	2.45	2.0-3.3
Triglycerides	Trigs	mmol/l	1.06	0.26-2.6
Lipase	Lip	mmol/l	42.5	23.8-124.5
Amylase	Amyl	iu/l	8.9	3.3.-22.1
Calcium	Ca	mmol/l	3.1	2.9-3.3
Fractional urinary clearance	Ca	%	6.2	2.6-15.5
Phosphate	PO4	mmol/l	1.2	1.0-1.5
Fractional urinary clearance	PO4	%	0.3	0.02-0.53
Magnesium	Mg	mmol/l	0.8	0.6-0.9
Fractional urinary clearance	Mg	%	11.7	3.8-21.9
Copper (serum)	Cu	µmol/l	17.1	13.5-20.3
Copper (plasma)	Cu	µmol/l		
Zinc	Zn	µmol/l		
Sodium	Na	mmol/l	143	130-160
Fractional urinary clearance	Na	%	0.05	0.02-1.0
Potassium	K	mmol/l	3.9	3.4-4.3
Fractional urinary clearance	K	%	32.8	15-65
Chloride	Cl	mmol/l	103	96-108
Fractional urinary clearance	Cl	%	0.78	0.04-1.6
Cortisol	Cort	nmol/l	136	71-240
Fasting Insulin	Ins	µiu/ml	25.5	8.0-47.5
Tri-iodothyronine	T3	nmol/l	1.0	0.48-1.46
Thyroxine	T4	nmol/l	22.7	7.7-42.8
Troponin	cTnl	ng/ml	0.19	0.10-0.36
Selenium	Se	µmol/l	3.5	1.6-5.3