ROSSDALES LABORATORIES

REFERENCE RANGES

YEARLING THOROUGHBRED HORSES

Clinical Pathology Reference Ranges – Means & Ranges

Test	Abbreviation	Units	Mean	Range
Total erythrocytes	RBC	$x10^{12}$/l	9.5	7.5-11.5
Packed cell volume	PCV	l/l	0.35	0.30-0.41
Haemoglobin	Hb	g/dl	12.9	10.0-14.3
Mean cell volume	MCV	fl	37.0	33.6-40.0
Mean cell haemoglobin concentration	McHc	g/dl	36.6	34.5-40.0
Mean cell haemoglobin	McH	pg	13.5	12.6-15.0
Total leucocytes	WBC	$x10^9$/l	9.5	6.0-15.0
Segmented neutrophils	Segs	$x10^9$/l	4.9	3.7-5.4
	Segs	%	51	40-53
Lymphocytes	Lymphs	$x10^9$/l	3.9	3.5-4.9
	Lymphs	%	41	35-49
Monocytes	Monos	$x10^9$/l	0.3	0.2-0.5
	Monos	%	3	2-5
Eosinophils	Eos	$x10^9$/l	0.2	0.1-1.0
	Eos	%	2	1-5
Platelets	Plts	$x10^9$/l	174	118-243
Plasma viscosity	PV	mPa	1.55	1.40-1.60
Total Protein	TSP	g/l	59	50-70
Albumin	Alb	g/l	32	20-40
Globulin	Glob	g/l	27	20-50
Alpha 1 globulin	x1 glob	g/l	1.3	0.7-2.0
Alpha 2 globulin	x2 glob	g/l	7.6	6.0-9.3
Beta 1 globulin	x1 glob	g/l	6.7	4.8-8.3
Beta 2 globulin	x2 glob	g/l	5.0	4.3-5.9
Gamma globulin	x glob	g/l	7.1	4.6-8.4
Plasma fibrinogen	Fib	g/l	3.3	2.7-4.4
Serum amyloid A	SAA	mg/l	1.2	0-10
Aspartate amino transferase	AST	iu/l	381	323-441
Creatinine kinase	CK	iu/l	267	190-370
Lactate dehydrogenase	LD	iu/l	874	476-1200
LD isoenzyme 1	LD1	% total LD	11	5-15
LD isoenzyme 2	LD2	% total LD	25	20-30
LD isoenzyme 3	LD3	% total LD	36	30-44
LD isoenzyme 4	LD4	% total LD	20	12-30
LD isoenzyme 5	LD5	% total LD	5	2-6
Gamma glutamyl transferase	GGT	iu/l	23	10-30
Glutamate dehydrogenase	GLDH	iu/l	9	7-18

Test	Abbreviation	Units	Mean	Range
Serum alkaline phosphatase	SAP	iu/l	611	500-1200
Intestinal alkaline phosphatase	IAP	iu/l	140	100-250
	IAP	% total SAP	23	<25
Urea	Urea	mmol/l	5.6	4.6-8.0
Creatinine	Creat	µmol/l	118	93-125
Bromsulphalein half time clearance	BSP	Seconds	168	138-198
Glucose	Glu	mmol/l	4.7	3.4-5.9
Total bilirubin	TBili	µmol/l	34	22-46
Direct bilirubin	DBili	µmol/l	12	5-18
Bile acids	BAcids	µmol/l	5.1	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		
Amylase	Amyl	iu/l		
Calcium	Ca	mmol/l	3.0	2.7-3.3
Fractional urinary clearance	Ca	%	6.2	2.6-15.5
Phosphate	PO4	mmol/l	1.7	1.5-2.0
Fractional urinary clearance	PO4	%	1.9	0.0-3.2
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	134	130-140
Fractional urinary clearance	Na	%	0.14	0.02-1.2
Potassium	K	mmol/l	3.8	3.6-4.0
Fractional urinary clearance	K	%	36.5	12-70
Chloride	Cl	mmol/l	100	97-105
Fractional urinary clearance	Cl	%	0.90	0.03-2.0
Cortisol	Cort	nmol/l		
Fasting Insulin	Ins	µiu/ml		
Tri-iodothyronine	T3	nmol/l	1.4	0.4-2.6
Thyroxine	T4	nmol/l	21	5-40
Troponin	cTnI	ng/ml		
Selenium	Se	µmol/l		

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