ROSSDALES LABORATORIES

REFERENCE RANGES

ADULT THOROUGHBRED HORSES AT STUD

Clinical Pathology Reference Ranges – Means & Ranges

Test	Abbreviation	Units	Mean	Range
Total erythrocytes	RBC	$x10^{12}$/l	11.5	9.0-14.0
Packed cell volume	PCV	l/l	0.41	0.35-0.47
Haemoglobin	Hb	g/dl	14.0	11.1-16.9
Mean cell volume	MCV	fl	36.0	31.0-41.0
Mean cell haemoglobin concentration	McHc	g/dl	34.0	32.0-36.0
Mean cell haemoglobin	McH	pg	12.1	10.0-14.2
Total leucocytes	WBC	$x10^{9}$/l	7.1	4.1-10.1
Segmented neutrophils	Segs	$x10^{9}$/l	3.6	1.4-5.8
	Segs	%	52	36-68
Lymphocytes	Lymphs	$x10^{9}$/l	3.0	1.4-4.7
	Lymphs	%	45	39-61
Monocytes	Monos	$x10^{9}$/l	0.4	0.36-0.56
	Monos	%	4	2-6
Eosinophils	Eos	$x10^{9}$/l	0.2	0-0.5
	Eos	%	3	0-5
Platelets	Plts	$x10^{9}$/l	170	127-206
Plasma viscosity	PV	mPa	1.45	1.35-1.55
Total Protein	TSP	g/l	70	65-75
Albumin	Alb	g/l	36	34-38
Globulin	Glob	g/l	34	29-39
Alpha 1 globulin	x1 glob	g/l	1.6	1.1-2.1
Alpha 2 globulin	x2 glob	g/l	6.9	5.5-7.9
Beta 1 globulin	x1 glob	g/l	9.2	6.8-11.4
Beta 2 globulin	x2 glob	g/l	5.5	3.5-7.2
Gamma globulin	x glob	g/l	11.3	8.3-14.4
Plasma fibrinogen	Fib	g/l	2.2	1.5-3.3
Serum amyloid A	SAA	mg/l	1.3	0-20
Aspartate amino transferase	AST	iu/l	309	256-369
Creatinine kinase	CK	iu/l	216	154-270
Lactate dehydrogenase	LD	iu/l	525	383-664
LD isoenzyme 1	LD1	% total LD	13	10-17
LD isoenzyme 2	LD2	% total LD	30	24-37
LD isoenzyme 3	LD3	% total LD	43	38-49
LD isoenzyme 4	LD4	% total LD	13	9-18
LD isoenzyme 5	LD5	% total LD	2	1-3
Gamma glutamyl transferase	GGT	iu/l	20	14-28
Glutamate dehydrogenase	GLDH	iu/l	8	4-14

Test	Abbreviation	Units	Mean	Range
Serum alkaline phosphatase	SAP	iu/l	403	286-571
Intestinal alkaline phosphatase	IAP	iu/l	103	77-157
	IAP	% total SAP	24.3	<28
Urea	Urea	mmol/l	7.6	5.9-9.5
Creatinine	Creat	µmol/l	99	87-112
Bromsulphalein half time clearance	BSP	Seconds	168	138-198
Glucose	Glu	mmol/l	4.7	3.5-5.9
Total bilirubin	TBili	µmol/l	26	13-39
Direct bilirubin	DBili	µmol/l	10	4-15
Bile acids	BAcids	µmol/l	4.7	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	3.0-3.3
Fractional urinary clearance	Ca	%	6.2	2.6-15.5
Phosphate	PO4	mmol/l	1.0	0.8-1.3
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	142	135-149
Fractional urinary clearance	Na	%	0.09	0.02-1.0
Potassium	K	mmol/l	3.8	3.3-4.1
Fractional urinary clearance	K	%	32.8	15-65
Chloride	Cl	mmol/l	104	100-108
Fractional urinary clearance	Cl	%	0.72	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	cTnI	ng/ml	0.1	0.05-0.2
Selenium	Se	µmol/l	3.5	1.6-5.3

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