

International Species Information System

Conventional U.S.A. Units

LOXODONTA AFRICANA **AFRICAN ELEPHANT**

Physiological reference ranges calculated for:

- Both sexes combined
- All ages combined

Sample results submitted by 49 member institutions.

© I.S.I.S. - March 2002

[Back to Index of Species](#)

Reference Ranges for Physiological Data Values

Test	Units	Mean	St. Dev.	Minimum Value	Maximum Value	Sample Size ^a	Animals
WHITE BLOOD CELL COUNT	*10 ³ /μl	10.45	2.641	4.200	24.20	2036	118
RED BLOOD CELL COUNT	*10 ⁶ /μl	3.13	0.44	1.83	5.20	1842	116
HEMOGLOBIN	g/dl	13.6	1.6	7.0	26.1	1896	116
HEMATOCRIT	%	39.2	4.6	26.6	56.0	2530	126
MCV	fL	125.7	9.1	83.3	191.3	1817	115
MCH	pg/cell	43.6	3.5	26.7	81.6	1809	113
MCHC	g/dl	34.7	2.1	18.4	57.9	1862	116
PLATELET COUNT	*10 ³ /μl	373	208	25	1380	347	48
NUCLEATED RED BLOOD CELLS	/100 WBC	0	0	0	3	197	35
RETICULOCYTES	%	0.0	0.0	0.0	0.0	12	6
SEGMENTED NEUTROPHILS	*10 ³ /μl	3.268	1.592	0.000	11.90	1626	105
LYMPHOCYTES	*10 ³ /μl	4.869	2.410	0.022	17.40	1665	107
MONOCYTES	*10 ³ /μl	1.815	1.764	0.000	9.480	1502	103

EOSINOPHILS	*10 ³ /μl	0.248	0.278	0.000	2.898	1095	89
BASOPHILS	*10 ³ /μl	0.137	0.113	0.000	0.888	217	43
NEUTROPHILIC BANDS	*10 ³ /μl	0.882	0.831	0.000	7.840	645	74
ERYTHROCYTE SEDIMENTATION RATE	mm/Hr	62	19	22	106	66	2
CALCIUM	mg/dl	11.0	0.6	8.1	15.7	1804	119
PHOSPHORUS	mg/dl	4.9	0.8	2.6	8.2	1544	119
SODIUM	mEq/L	129	4	107	182	1634	112
POTASSIUM	mEq/L	4.8	0.5	3.0	8.9	1650	112
CHLORIDE	mEq/L	87	4	67	129	1600	110
BICARBONATE	mEq/L	25.7	3.7	13.0	36.0	65	14
CARBON DIOXIDE	mEq/L	25.9	3.9	10.0	61.4	435	57
OSMOLARITY	mOsmol/L	258	6	243	272	193	17
IRON	μg/dl	78	40	8	174	60	27
MAGNESIUM	mg/dl	1.88	0.77	0.65	4.20	137	43
BLOOD UREA NITROGEN	mg/dl	10	3	0	22	1798	119
CREATININE	mg/dl	1.4	0.4	0.0	11.0	1802	120
URIC ACID	mg/dl	0.2	0.4	0.0	5.1	491	58
TOTAL BILIRUBIN	mg/dl	0.2	0.1	0.0	1.0	1490	117
DIRECT BILIRUBIN	mg/dl	0.1	0.1	0.0	0.3	190	54
INDIRECT BILIRUBIN	mg/dl	0.2	0.1	0.0	0.9	187	54
GLUCOSE	mg/dl	84	14	0	131	1802	117
CHOLESTEROL	mg/dl	67	19	0	234	1587	114
TRIGLYCERIDE	mg/dl	64	30	0	179	1298	80
CREATINE PHOSPHOKINASE	IU/L	249	178	25	1884	406	87
LACTATE DEHYDROGENASE	IU/L	1009	564	157	4306	1182	82
ALKALINE PHOSPHATASE	IU/L	126	59	32	441	1765	113
ALANINE AMINOTRANSFERASE	IU/L	6	6	0	32	708	100
ASPARTATE							

AMINOTRANSFERASE	IU/L	23	10	5	90	1768	114
GAMMA GLUTAMYLTRANSFERASE	IU/L	12	5	0	34	560	81
AMYLASE	U/L	2466	1436	0	7460	366	57
LIPASE	U/L	10	12	0	73	97	21
TOTAL PROTEIN (COLORIMETRY)	g/dl	7.7	0.6	5.4	10.5	1030	112
GLOBULIN (COLORIMETRY)	g/dl	4.6	0.9	2.4	8.2	901	111
ALBUMIN (COLORIMETRY)	g/dl	3.3	0.6	1.7	5.5	911	113
FIBRINOGEN	mg/dl	223	107	0	508	184	38
GAMMA GLOBULIN (ELECTROPHORESIS)	g/dl	1.7	0.4	0.7	2.5	16	12
ALBUMIN (ELECTROPHORESIS)	g/dl	4.1	0.3	3.6	4.9	16	12
ALPHA GLOBULIN (ELECTROPHORESIS)	mg/dl	0.7	0.0	0.7	0.7	1	1
ALPHA-1 GLOBULIN (ELECTROPHORESIS)	mg/dl	0.7	0.2	0.2	0.8	8	7
ALPHA-2 GLOBULIN (ELECTROPHORESIS)	mg/dl	1.0	0.3	0.8	1.6	8	7
BETA GLOBULIN (ELECTROPHORESIS)	mg/dl	0.9	0.3	0.4	1.7	11	8
CORTISOL	µg/dl	3.6	3.5	0.5	8.9	8	1
TESTOSTERONE	ng/ml	2.751	3.176	0.220	12.90	18	4
PROGESTERONE	ng/dl	106.4	191.9	0.050	1005	503	17
TOTAL TRIIODOTHYRONINE	ng/ml	209.0	0.0	209.0	209.0	1	1
TOTAL THYROXINE	µg/dl	8.2	1.3	6.9	9.5	3	3
TOCOPHEROL	µg/ml	0	0	0	0	1	1
TOCOPHEROL, GAMMA	µg/dl	0	0	0	0	1	1
Body Temperature:	°F	102.2	0.0	102.2	102.2	1	1

^a Number of samples used to calculate the reference range.

^b Number of different individuals contributing to the reference values.

International Species Information System
12101 Johnny Cake Ridge Road
Apple Valley, MN 55124
U.S.A.
www.isis.org □