



Analyte	Unit	Dog	Cat	Horse	Eq. Foal	Cow	Sheep	Pig	Goat	Donkey	Alpaca	Llama	Rabbit	Rhesus
ACTH (endogenous)	pmol/L	6.70-25.00		1.90-9.00										
Alkaline Phosphatase	U/L	14-91	14-71	78-218 ²	1362-3049	24-74	50-300	49-289	27-210	132-414		0-179	15-126	75-596
ALT	U/L	21-72	27-101	0-6		11-39	5-18		6-19	0-39		0-10	17-127	18-62
Amikacin	ug/ml	0-14		0-14										
Amikacin, Trough	ug/ml	0.0-5.0		0.0-5.0										
Amikacin, Peak	ug/ml	6.0-14.0		10.0-41.0										
Ammonia	ug/dl	0-59	0-68	5-59										
AST	U/L	20-49	17-58	186-341 ²	70-213	50-105	75-339		58-196	255-634	107-199	143-436	10-52	36-76
Bile Acids: Fasting	umol/L	0-12	0-16	0-20	20-84	4-47								3-12
Post Prandial	umol/L	0-16	0-16											
Bilirubin:														
Total	mg/dl	0.0-0.2	0.0-0.2	0.7-1.8 ²	1.8-3.8	0.0-0.6	0.1-0.2	0.0-0.3	0.0-0.1		0.0-0.1	0.0-0.2	0.0-0.2	0.1-0.3
Direct	mg/dl	0.0-0.1	0.0-0.0	<0.2 ²	0.1-0.3	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0		0.0-0.0
Indirect	mg/dl	0.0-0.2			1.7-3.6									0.0-0.1
BUN	mg/dl	11-33	18-33	10-22 ²	12-24	7-18	19-37	7-14	19-31	7-27	7-22	9-34	11-30	17-33
Calcium	mg/dl	9.6-11.2	9.0-10.9	11.3-13.0 ²	10.8-12.8	8.9-10.7	8.8-11.1	8.9-10.3	8.9-11.2	9.5-12.6	9.0-9.9	7.9-10.9		8.2-10.2
Cholesterol	mg/dl	139-353	89-258	51-129	91-211	89-267	37-65		74-150	73-187		22-176	14-83	67-179
CK Total	U/L	55-257	73-260	136-313 ²	138-508	66-272	100-547	264-911	104-219	11-103	37-108	14-238	23-950	265-2119
Cortisol, Pre (resting)	ug/dl	0.0-6.0	0.0-6.0											
Cort./Creat. Ratio (Ur)	10 ⁻⁶	9.8-32.6												
Creatinine	mg/dl	0.8-1.5	1.1-2.2	0.9-1.6 ²	1.2-2.3	0.6-1.3	0.8-1.3	1.2-2.3	0.7-1.0	0.6-1.5	1.1-1.9	1.1-3.2	0.7-1.5	0.5-0.9
CRP	mg/L	0.0-10.0												
CSF Protein	mg/dl	0-25	0-20	30-80		0-40	0-40	0-40						
Electrolytes:														
Sodium	mmol/L	143-151	151-158	132-140 ²	131-144	138-146	140-150	141-152	140-150	132-148	147-152	148-158	140-148	142-151
Potassium	mmol/L	3.6-4.8	3.6-4.9	2.1-4.7 ²	3.1-5.0	3.8-5.1	4.5-6.0	4.4-6.7	3.4-5.7	2.2-5.3	4.4-5.3	3.7-6.2	3.6-5.7	3.2-5.3
Chloride	mmol/L	108-116	117-126	95-102 ²	91-103	97-109	101-105	97-110	104-116	99-113	106-118	103-125	96-109	107-112
CO ₂ , Total	mmol/L	20-29	15-21	25-31 ²	28-36	23-32	20-26	23-34	22-28	22-32	22-32	14-34	14-30	19-43
Anion Gap	mmol/L	12-20	13-27	12-17 ²	7-12	13-20	17-31	13-27	9-24		11-19	13-27	16-34	0-23
Folate	ug/dl	6.5-18.6	10.4-20.7											
Fructosamine	umol/L	274-412	219-365											171-273
Gamma GT	U/L	0-5	0-4	<3-19 ²	20-56	10-41	40-94	11-56	34-65	19-134	11-33	6-29	3-18	28-57
GLDH	U/L	0-8	0-4	4-15	4-15	3-31							2-8	6-27
Glucose	mg/dl	86-118	63-118	69-110 ²	122-205	56-74	48-80	43-104	45-70	36-155	101-129	71-149	109-197	29-60
Glucose (SI)	mmol/L	3.6-6.8	3.5-6.5	4.8-6.6										
Hemostasis:														
Protine-PT (STA)	sec	7.0-9.3	10.0-15.3	10.7-12.0										
APTT (STA)	sec	10.4-12.9	11.2-16.0	35.0-46.1										
Fibrinogen (STA)	mg/dl	109-311	73-356	127-224		60-233			100-400					
d-dimer (STA)	ng/ml	0-186												
Plasma FDP	ug/ml	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
vWF (STA)	%	90-229												
LDH	U/L			496-748										321-933
Magnesium, Ionized	mmol/L	0.40-0.52	0.44-0.60	0.53-0.88 ²	0.42-0.70	0.42-0.59					0.48-0.66			
Magnesium Total	mg/dl	1.9-2.5	1.5-2.5	1.9-3.0	2.0-3.2	2.2-3.1	2.6-3.1	2.4-3.1		1.9-3.6	2.2-2.9			1.7-2.3
Phenobarbital	ug/ml	15-40	15-40	15-40										
Phosphorus	mg/dl	2.6-5.2	3.2-6.3	1.8-4.0 ²	4.1-6.4	4.2-7.4	3.8-8.7	7.1-10.2	4.2-9.1	2.4-7.0	4.3-8.3	2.6-10.7	1.7-5.0	1.8-4.5
Proteins:														
Total Protein	g/dl	5.4-6.9	6.6-8.4	6.1-7.6 ²	4.3-7.7	7.0-8.7	6.6-8.6	5.7-7.6	6.8-8.3	5.6-8.5	5.4-6.9	4.7-7.3	5.9-8.3	6.6-8.5
Albumin	g/dl	3.4-4.3	2.2-4.6	2.9-3.7 ²	2.2-3.3	3.1-4.3	3.2-4.4	2.2-4.2	3.3-4.2	3.1-4.8	3.6-4.2	3.6-6.1	3.0-3.4	2.8-4.6
Globulin	g/dl	1.7-3.1	2.8-5.4	2.7-4.4 ²	1.6-4.9	2.9-5.1					1.7-3.0		0.0-3.0	3.1-4.7
SDH-37	U/L			0-5.2 ²	2-11	4-24	18-77	1-13	2-57	1-13	2-5	1-62		
Thyroid Tests:														
Total T4	ug/dl	1.0-3.2	1.1-3.3	0.6-3.0										
TSH-K9	ng/ml	0.03-0.50	0.03-0.30 ¹											
Free T4 IMMULITE	ng/dl	0.57-2.93	0.59-3.04											
TLI (trypsin-like immunoreactivity)	ng/ml	9.6-31.2												
Troponin-I	ng/ml	0.09-0.17	0.00-0.09											
Triglycerides	mg/dl	19-133	8-80	17-63 ²	24-71	12-31			4-23		11-30			31-109
Vitamin B12	ng/L	271-875	279-1254											

Compiled: 7/1205, 4/5/06, 5/1/06, 6/27/07, 1/8/09, 9/17: 1/11/06; Equine Foal: 9/25/06; Cow: 7/7/07; FT4: 11/30/10; Alpaca: 3/10/09; Coag: 3/1/10

- Peterson, M.E., et al. "Evaluation of serum thyroid-stimulating hormone concentration as a diagnostic test for hyperthyroidism in cats." *Journal of Veterinary Internal Medicine*, vol. 29, no. 5, 20 July 2015, pp. 1327-1334. <https://doi.org/10.1111/jvim.13585>. Updated in VMACS 4/13/22
- Schaeffer study from 2018. Updated to VMACS on 8/5/2024.