

## Background data – Clinical chemistry values

Parameter	Abbrv.	Unit		Male 7 weeks	Female 7 weeks	Male 3 months	Female 3 months	Male 6 months	Female 6 months
Alanine aminotransferase	ALAT	µ kat/l	MEAN	0,76	0,66	0,96	0,80	1,30	1,06
			SD	0,21	0,12	0,24	0,23	1,37	0,65
			NUMBER	21	20	17	17	17	17
Sorbitol dehydrogenase	SDH	µ kat/l	MEAN	1,29	1,34	1,33	1,49	1,75	1,68
			SD	0,34	0,40	0,57	0,41	1,48	0,70
			NUMBER	21	20	17	17	17	17
Aspartate aminotransferase	ASAT	µ kat/l	MEAN	0,55	0,48	0,39	0,33	0,64	0,50
			SD	0,18	0,09	0,13	0,07	0,74	0,45
			NUMBER	21	20	16	17	17	16
Alkaline phosphatase	ALKPH	µ kat/l	MEAN	4,67	4,68	3,67	3,63	2,55	2,30
			SD	0,87	0,74	0,98	1,10	0,68	0,90
			NUMBER	21	20	17	17	17	17
Bilirubin (total)	BILI	µ mol/l	MEAN	0,31	0,37	0,16	0,88	0,40	1,44
			SD	0,58	0,58	0,45	0,94	0,90	1,24
			NUMBER	21	20	17	17	17	17
Gamma glutamyltransferase	GGT	µ kat/l	MEAN	0,95	0,95	0,97	0,91	0,90	0,90
			SD	0,17	0,17	0,26	0,24	0,21	0,37
			NUMBER	21	20	17	17	17	17
Cholesterol	CHOL	mmol/l	MEAN	2,20	2,53	1,73	2,23	1,32	2,09
			SD	0,31	0,34	0,52	0,52	0,35	0,48
			NUMBER	21	20	17	17	17	17
Creatinekinase	CK	µ kat/l	MEAN	7,57	5,11	5,09	4,00	28,67	32,72
			SD	11,66	2,59	3,63	2,02	65,05	66,40
			NUMBER	21	20	17	17	17	17

## Background data – Clinical chemistry values

Parameter	Abbrv.	Unit		Male 7 weeks	Female 7 weeks	Male 3 months	Female 3 months	Male 6 months	Female 6 months
Lactate dehydrogenase	LDH	μ kat/l	MEAN	8,38	7,45	6,76	6,59	6,71	6,71
			SD	1,12	0,94	1,86	2,06	3,51	3,26
			NUMBER	21	20	17	17	17	17
Amylase	AMYL	IU/l	MEAN	42,12	42,93	48,34	54,02	42,76	46,92
			SD	6,18	5,57	8,74	7,61	11,80	9,52
			NUMBER	21	20	17	17	17	17
Protein (total)	TP	g/l	MEAN	53,37	55,78	52,32	52,76	53,01	60,17
			SD	2,73	2,75	11,23	10,13	11,76	12,95
			NUMBER	21	20	17	17	17	17
Triglycerides	TRIG	mmol/l	MEAN	0,58	0,57	0,41	0,47	0,31	0,48
			SD	0,17	0,15	0,16	0,14	0,10	0,15
			NUMBER	21	20	17	17	17	16
Carbamide	UREA	mmol/l	MEAN	1,85	1,87	1,89	2,16	1,66	2,34
			SD	0,40	0,33	0,53	0,62	0,46	0,68
			NUMBER	21	20	17	17	17	17
Creatinine	CREAT	μ mol/l	MEAN	46,90	49,65	59,47	62,53	76,65	74,18
			SD	7,79	6,77	9,73	10,36	13,20	20,63
			NUMBER	21	20	17	17	17	17
Glucose (wholeblood)	GLUC	mmol/l	MEAN	4,52	4,91	4,55	5,08	4,48	4,75
			SD	0,64	0,60	0,96	1,22	0,91	1,19
			NUMBER	21	20	17	17	17	17
Sodium	Na	mmol/l	MEAN	140,86	141,70	133,03	134,16	131,05	133,27
			SD	3,62	1,42	16,24	14,16	16,56	17,48
			NUMBER	21	20	17	17	17	17

## Background data – Clinical chemistry values

Parameter	Abbrv.	Unit		Male 7 weeks	Female 7 weeks	Male 3 months	Female 3 months	Male 6 months	Female 6 months
Potassium	K	mmol/l	MEAN	4,62	4,87	4,06	4,01	4,54	4,45
			SD	0,72	0,80	0,74	0,59	0,83	0,98
			NUMBER	21	20	17	17	17	17
Calcium	Ca	mmol/l	MEAN	2,68	2,73	2,40	2,45	2,32	2,41
			SD	0,11	0,09	0,49	0,40	0,45	0,43
			NUMBER	21	20	17	17	17	17
Magnesium	Mg	mmol/l	MEAN	1,13	1,13	0,92	0,96	0,89	0,95
			SD	0,11	0,08	0,18	0,16	0,20	0,17
			NUMBER	21	20	17	17	17	17
Inorganic phosphorous	Pi	mmol/l	MEAN	3,09	2,96	2,40	2,51	2,20	2,35
			SD	0,35	0,30	0,53	0,47	0,48	0,54
			NUMBER	21	20	17	17	17	17
Chloride	Cl	mmol/l	MEAN	99,40	100,69	91,73	92,53	91,35	91,48
			SD	2,53	1,91	11,25	9,49	12,05	12,45
			NUMBER	21	20	17	17	17	17
Albumin	ALB	%	MEAN	49,79	49,53	57,02	55,21	57,06	54,92
			SD	2,46	2,10	3,60	6,20	2,19	1,89
			NUMBER	20,00	20	15	17	17	17
Albumin (Indirect)	ALB	g/l	MEAN	26,50	27,63	30,53	29,06	30,19	32,81
			SD	2,00	1,84	6,41	6,08	6,80	6,47
			NUMBER	20	20	15	17	17	17
Albumin (Direct)	ALB	g/l	MEAN	36,43	37,75	39,12	38,76	40,35	43,24
			SD	2,48	2,02	8,09	8,33	8,75	8,04
			NUMBER	21	20	17	17	17	17

## Background data – Clinical chemistry values

Parameter	Abbrv.	Unit		Male 7 weeks	Female 7 weeks	Male 3 months	Female 3 months	Male 6 months	Female 6 months
a 1-globulin	ALPHA1	%	MEAN	4,77	4,27	3,75	5,27	4,13	3,44
			SD	1,07	1,22	1,16	2,73	1,78	1,32
			NUMBER	20	20	15	17	17	17
a 1-globulin	ALPHA1	g/l	MEAN	2,53	2,38	2,03	2,79	2,21	2,06
			SD	0,53	0,66	0,82	1,55	1,16	0,93
			NUMBER	20	20	15	17	17	17
a 2-globulin	ALPHA2	%	MEAN	20,64	21,91	16,80	16,82	16,01	16,68
			SD	1,83	1,66	1,91	2,08	2,10	2,52
			NUMBER	20	20	15	17	17	17
a 2-globulin	ALPHA2	g/l	MEAN	10,98	12,20	9,02	8,82	8,44	10,20
			SD	1,12	0,91	2,15	1,86	2,07	3,40
			NUMBER	20	20	15	17	17	17
b -globulin	BETA	%	MEAN	15,97	14,77	13,35	13,92	13,49	13,31
			SD	1,51	1,13	1,09	1,22	1,76	1,70
			NUMBER	20	20	15	17	17	17
b -globulin	BETA	g/l	MEAN	8,49	8,24	7,15	7,32	7,14	8,05
			SD	0,84	0,79	1,65	1,48	1,77	2,26
			NUMBER	20	20	15	17	17	17
g -globulin	GAMMA	%	MEAN	8,85	9,53	9,03	9,06	9,35	11,37
			SD	1,29	1,32	1,88	1,59	1,94	3,87
			NUMBER	20	20	15	17	17	17
g -globulin	GAMMA	g/l	MEAN	4,71	5,33	4,88	4,76	5,03	7,06
			SD	0,78	0,85	1,43	1,15	1,71	3,79
			NUMBER	20	20	15	17	17	17

## Background data – Clinical chemistry values

Parameter	Abbrv.	Unit		Male 7 weeks	Female 7 weeks	Male 3 months	Female 3 months	Male 6 months	Female 6 months
Albumin/globulin ratio	A/G		MEAN	1,00	0,98	1,33	1,22	1,34	1,26
			SD	0,10	0,08	0,12	0,09	0,20	0,23
			NUMBER	20	20	15	17	17	17

Data from 2008

**The clinical chemical values were determined using the instrumentation below:**

Hitachi 917, colorimetric: ASAT, ALAT, ALP, GGT, PHOS, CHOL, TRIG, UREA, CREA, GLUC, BILI, CA, MG, CK, ALB, TP, LDH, AMYL, SDH

Hitachi 917, ion selective electrodes: NA, K, CL,

Sebia Hydrasys/Hyrys, electrophoresis: Albumin, Alpha 1, Alpha 2, Beta, Gamma, A/G ratio

## Background data - Clinical chemistry parameters

Parameter	Abbrv.	Unit		Female 2 days	Female 1 week	Female 2 weeks	Female 4 weeks	Female 5 weeks
<b>Alanine aminotransferase</b>	ALAT	µKat/L	MEAN	ND	0,39	0,42	0,40	0,60
			SD	ND	0,08	0,11	0,02	0,1
			NUMBER	0	2	4	3	7
<b>Aspartate aminotransferase</b>	ASAT	µKat/L	MEAN	0,99	0,43	0,88	0,46	0,61
			SD	0	0,01	0,44	0,06	0,32
			NUMBER	1	2	3	3	7
<b>Alkaline phosphatase</b>	ALKPH	µKat/L	MEAN	28,62	17,97	18,49	7,39	2,77
			SD	8,66	3,88	10,6	1,11	0,33
			NUMBER	7	7	7	7	7
<b>Gamma glutamyltransferase</b>	GGT	µKat/L	MEAN	2,68	1,01	1,33	1,24	1,67
			SD	0,34	0,19	0,34	0,08	0,75
			NUMBER	6	7	7	7	7
<b>Bilirubin (total)</b>	BILI	mmol/L	MEAN	2,72	1,57	1,62	1,35	4,67
			SD	0,65	0,65	0,5	0,31	2,19
			NUMBER	5	7	6	6	6
<b>Cholesterol</b>	CHOL	mmol/L	MEAN	2,52	3,54	3,64	6,80	3,74
			SD	0,86	0,61	0,9	2,33	1,44
			NUMBER	7	7	7	7	7
<b>Triglycerides</b>	TRIG	mmol/L	MEAN	3,70	1,95	1,33	1,63	1,22
			SD	1,67	0,46	0,62	0,88	0,81
			NUMBER	7	7	7	7	7
<b>Carbamide</b>	UREA	mmol/L	MEAN	6,20	3,76	3,76	1,93	4,61
			SD	1,90	1,27	1,48	0,5	1,89
			NUMBER	6	7	7	7	7

## Background data - Clinical chemistry parameters

Parameter	Abbrv.	Unit		Female 2 days	Female 1 week	Female 2 weeks	Female 4 weeks	Female 5 weeks
<b>Creatinine</b>	CREAT	µmol/L	MEAN	38,0	48,14	45,71	43,14	57,29
			SD	5,80	6,72	7,54	4,41	7,61
			NUMBER	7	7	7	7	7
<b>Glucose (wholeblood)</b>	GLUC	mmol/L	MEAN	7,02	7,84	7,01	7,02	4,83
			SD	1,24	1,02	0,53	0,66	1,34
			NUMBER	5	7	7	7	7
<b>Calcium</b>	Ca	mmol/L	MEAN	140,1	2,93	2,94	141,2	143,9
			SD	1,57	0,21	0,22	1,96	3,21
			NUMBER	7	7	7	7	7
<b>Magnesium</b>	Mg	mmol/L	MEAN	4,41	1,04	1,18	4,94	6,38
			SD	0,81	0,12	0,19	0,53	1,22
			NUMBER	7	7	7	7	7
<b>Inorganic phosphorous</b>	Pi	mmol/L	MEAN	3,56	2,86	3,45	2,96	2,56
			SD	0,49	0,31	0,40	0,05	0,15
			NUMBER	5	7	7	7	7
<b>Sodium</b>	Na	mmol/L	MEAN	0,80	139,5	143,3	1,00	1,15
			SD	0,05	1,23	2,30	0,07	0,17
			NUMBER	7	7	7	7	7
<b>Potassium</b>	K	mmol/L	MEAN	1,77	5,10	6,49	3,23	2,37
			SD	0,35	0,53	1,55	0,07	0,22
			NUMBER	6	7	7	7	7
<b>Chloride</b>	Cl	mmol/L	MEAN	93,01	96,34	96,67	97,67	99,34
			SD	3,10	1,57	2,96	1,70	2,62
			NUMBER	7	7	7	7	7

## Background data - Clinical chemistry parameters

Parameter	Abbrv.	Unit		Female 2 days	Female 1 week	Female 2 weeks	Female 4 weeks	Female 5 weeks
<b>Protein (total)</b>	TP	g/L	MEAN	54,33	47,26	52,64	54,67	59,00
			SD	9,58	4,20	8,06	3,14	4,78
			NUMBER	7	7	7	7	7
<b>Albumin</b>	ALB	g/L	MEAN	18,48	30,67	37,54	43,17	45,01
			SD	2,64	3,43	4,30	1,68	2,09
			NUMBER	5	7	7	7	7
<b>Globulin</b>	GLO	g/L	MEAN	0,51	16,59	15,1	3,90	3,37
			SD	0,07	1,82	5,42	0,83	0,80
			NUMBER	5	7	7	7	7
<b>Albumin/globulin ratio</b>	AL/G		MEAN	36,96	1,86	2,76	11,5	13,99
			SD	8,05	0,27	1,00	2,62	3,30
			NUMBER	5	7	7	7	7
<b>Amylase</b>	AMYL	µKat/L	MEAN	4,75	<b>37,69</b>	38,64	13,06	<b>8,21</b>
			SD	2,55	<b>11,3</b>	12,7	6,45	<b>8,39</b>
			NUMBER	6	7	7	7	7
<b>Creatinekinase</b>	CK	µKat/L	MEAN	8,57	<b>4,81</b>	14,29	11,73	<b>12,14</b>
			SD	0,04	<b>1,05</b>	11,5	0,95	<b>2,41</b>
			NUMBER	6	7	7	7	7
<b>Lactate dehydrogenase</b>	LDH	µKat/L	MEAN	ND	<b>7,78</b>	10,21	ND	<b>0,09</b>
			SD	ND	<b>0,58</b>	7	ND	<b>0,06</b>
			NUMBER	0	7	1,95	1	5
<b>Sorbitol dehydrogenase</b>	SDH	µKat/L	MEAN	28,89	ND	ND	45,83	<b>25,34</b>
			SD	7,11	ND	ND	3,24	<b>3,62</b>
			NUMBER	6	0	1	7	7



# Background data – Clinical chemistry parameters

Clinical chemistry parameters in piglets of different ages – Female

Data from 2016

**The clinical chemical values were determined using the instrumentation below:**

Cobas 6000, colorimetric: ASAT, ALAT, ALP, GGT, PHOS, CHOL, TRIG, UREA, CREA, GLUC, BILI, CA, MG, CK, ALB, TP, LDH, AMYL, SDH

Cobas 6000, ion selective electrodes: NA, K, CL,

Globulin and A/G ratio was calculated from Cobas results

## Background data – Clinical chemistry parameters

Parameter	Abbrv.	Unit		Male 2 days	Male 1 week	Male 2 weeks	Male 4 weeks	Male 5 weeks
<b>Alanine aminotransferase</b>	ALAT	µKat/L	MEAN	ND	0,34	0,44	0,33	0,57
			SD	ND	0,03	0,16	0,10	0,15
			NUMBER	0	4	5	5	7
<b>Aspartate aminotransferase</b>	ASAT	µKat/L	MEAN	0,97	0,46	0,75	0,51	0,56
			SD	0,08	0,09	0,33	0,2	0,22
			NUMBER	2	3	4	5	5
<b>Alkaline phosphatase</b>	ALKPH	µKat/L	MEAN	39,68	17,59	18,79	10,61	3,43
			SD	13,3	4,24	3,24	2,47	0,93
			NUMBER	7	9	6	7	7
<b>Gamma glutamyltransferase</b>	GGT	µKat/L	MEAN	2,09	1,03	1,40	1,22	1,82
			SD	0,78	0,25	0,24	0,18	0,64
			NUMBER	7	9	7	7	7
<b>Bilirubin (total)</b>	BILI	mmol/L	MEAN	3,55	1,71	1,75	1,56	2,61
			SD	1,37	0,45	0,28	0,53	1,35
			NUMBER	6	8	6	5	7
<b>Cholesterol</b>	CHOL	mmol/L	MEAN	1,90	3,15	3,05	4,78	3,94
			SD	0,25	0,69	0,47	1,26	1,85
			NUMBER	7	9	7	7	7
<b>Triglycerides</b>	TRIG	mmol/L	MEAN	4,37	1,91	1,39	1,34	0,74
			SD	2,62	1,05	0,24	0,65	0,24
			NUMBER	7	9	7	7	7
<b>Carbamide</b>	UREA	mmol/L	MEAN	6,35	4,75	3,35	2,43	4,39
			SD	1,45	2,05	0,92	0,75	2,86
			NUMBER	7	9	7	7	7

## Background data - Clinical chemistry parameters

Parameter	Abbrv.	Unit		Male 2 days	Male 1 week	Male 2 weeks	Male 4 weeks	Male 5 weeks
<b>Creatinine</b>	CREAT	µmol/L	MEAN	36,43	46,0	47,29	43,71	60,43
			SD	2,30	3,97	6,37	8,79	8,75
			NUMBER	7	9	7	7	7
<b>Glucose (wholeblood)</b>	GLUC	mmol/L	MEAN	6,92	7,49	7,00	7,67	4,99
			SD	1,06	1,02	0,93	1,19	0,63
			NUMBER	6	9	7	7	7
<b>Calcium</b>	Ca	mmol/L	MEAN	136,6	3,06	2,95	139,8	2,59
			SD	2,29	0,18	0,15	2,18	0,13
			NUMBER	7	9	6	7	7
<b>Magnesium</b>	Mg	mmol/L	MEAN	4,93	1,14	1,20	4,64	0,97
			SD	0,69	0,13	0,14	0,46	0,03
			NUMBER	7	9	6	7	7
<b>Inorganic phosphorous</b>	Pi	mmol/L	MEAN	3,40	3,14	3,50	2,84	2,73
			SD	0,31	0,22	0,45	0,1	0,35
			NUMBER	6	9	7	7	7
<b>Sodium</b>	Na	mmol/L	MEAN	0,79	140,1	140,8	1,03	144,2
			SD	0,09	1,92	2,3	0,03	1,61
			NUMBER	7	9	7	7	7
<b>Potassium</b>	K	mmol/L	MEAN	1,78	5,23	5,37	3,22	5,31
			SD	0,39	0,46	1,11	0,21	0,31
			NUMBER	7	9	6	7	7
<b>Chloride</b>	Cl	mmol/L	MEAN	90,31	94,98	95,01	95,79	100,1
			SD	1,85	1,60	1,33	1,64	1,73
			NUMBER	7	9	7	7	7

## Background data – Clinical chemistry parameters

Parameter	Abbrv.	Unit		Male 2 days	Male 1 week	Male 2 weeks	Male 4 weeks	Male 5 weeks
<b>Protein (total)</b>	TP	g/L	MEAN	58,59	49,63	51,39	54,36	59,53
			SD	14,2	4,93	2,12	2,71	3,07
			NUMBER	7	9	7	7	7
<b>Albumin</b>	ALB	g/L	MEAN	17,62	31,31	36,14	43,79	47,46
			SD	3,36	2,93	2,70	1,21	2,62
			NUMBER	5	9	7	7	7
<b>Globulin</b>	GLO	g/L	MEAN	0,41	18,32	15,24	4,17	12,07
			SD	0,09	4,94	3,60	0,87	2,89
			NUMBER	5	9	7	7	7
<b>Albumin/globulin ratio</b>	AL/G		MEAN	44,76	1,83	2,57	10,84	4,27
			SD	13,4	0,58	1,03	2,05	1,66
			NUMBER	5	9	7	7	7
<b>Amylase</b>	AMYL	µKat/L	MEAN	9,61	36,31	37,12	13,76	32,69
			SD	13,95	8,77	12,0	10,5	5,13
			NUMBER	7	8	7	7	7
<b>Creatinekinase</b>	CK	µKat/L	MEAN	10,27	5,28	16,22	11,22	11,16
			SD	1,88	4,62	11,9	0,79	8,56
			NUMBER	7	9	7	7	7
<b>Lactate dehydrogenase</b>	LDH	µKat/L	MEAN	ND	8,74	11,86	ND	9,6
			SD	ND	2,03	3,21	ND	1,06
			NUMBER	0	9	7	0	7
<b>Sorbitol dehydrogenase</b>	SDH	µKat/L	MEAN	31,15	ND	ND	49,32	0,08
			SD	4,49	ND	ND	4,20	0,02
			NUMBER	7	0	0	7	7

## Background data – Clinical chemistry parameters

Clinical chemistry parameters in piglets of different ages - Male

Data from 2016

**The haematological values were determined using the instrumentation below:**

Cobas 6000, colorimetric: ASAT, ALAT, ALP, GGT, PHOS, CHOL, TRIG, UREA, CREA, GLUC, BILI, CA, MG, CK, ALB, TP, LDH, AMYL, SDH

Cobas 6000, ion selective electrodes: NA, K, CL,

Globulin and A/G ratio was calculated from Cobas results