

January 1984

## Baseline Hematology and Clinical Chemistry Values for Charles River Fischer344 Rats-CDF® (F-344)CrIBR as a Function of Sex and Age

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### Animals

The rats used to collect this baseline data were from a Charles River virus antibody free (VAF=) colony. These rats were free of antibody titers to the following murine viruses: Sendai, Reo-3, GD-VII, PVM, KRV, H-1, SDA, LCM and Mouse Adeno. In addition to the VAF<sup>®</sup> status, the animals were free of all endo- and ecto parasites, *Mycoplasma sp.*, and pathogenic or potentially pathogenic microorganisms.

These animals were raised in a barrier production room where they were group housed in suspended stainless steel wire cages. The rats were fed a pasteurized commercial laboratory diet *ad libitum* and chlorinated water (3 - 4 ppm) was available via an automatic watering system.

Barrier room environmental conditions were maintained at 72 ± 2 degrees F (22 ± 0.5 degrees C) with a relative humidity at 50% ± 10%. Ventilation in the room was between 12-15 air changes per hour of 100 % prefiltered outside air, with final filtration through HEPA filters prior to entry into the animal room. The photoperiod was controlled at 12 hours of light and 12 hours of dark with no twilight transition (lights on 6:00 AM-6:00 PM; lights off 6:00 PM-6:00 AM). Food was not withheld prior to sample collection, and all blood samples were collected via cardiac puncture following anesthesia using carbon dioxide.

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**Table 1**  
**CDF® (F-344)CrIBR Rats**  
**FEMALE**

Test	6-8 Weeks			19-21 Weeks			32-34 Weeks		
	X	Range ± 2S.D.	N	X	Range ± 2S.D.	N	X	Range ± 2S.D.	N
<b>CLINICAL CHEMISTRY</b>									
Glucose (mg/dl)	254	(71-437)	20	167	(77-257)	20	174.	(66-282)	20
BUN (mg/dl)	15	(10-20)	20	23	(18-28)	20	18	(10-26)	20
Creatinine (mg/dl)	0.7	(0.1-1.3)	20	0.8	(0.5-1.1)	20	0.7	(0.3-1.1)	20
Calcium (mg/dl)	12.3	(7.0-17.6)	20	13.4	(9.1-17.7)	20	12.0	(10.5-13.5)	20
Inorganic Phos (mg/dl)	12.3	(10.1-14.5)	20	11.5	(9.2-13.8)	20	9.4	(5.8-13.0)	20
Total Bilirubin (mg/dl)	0.1	(0.0-0.2)	20	0.2	(0.0-0.4)	20	0.4	(0.0-0.8)	20
Cholesterol (mg/dl)	56	(39-73)	20	66	(46-86)	20	52	(4-100)	20
Iron (mg/dl)	364	(178-550)	20	202	(138-266)	20	266	(90-442)	20
AlkPhos (I.U./L)	543	(374-711)	20	318	(237-399)	20	162	(51-273)	20
SGOT (I.U./L)	338	(80-596)	20	246	(56-436)	20	244	(4-484)	20
SGPT (I.U./L)	155	(85-225)	20	223	(125-321)	20	178	(26-330)	20
Sodium (mg/L)	141	(135-147)	20	143	(139-147)	20	144	(139-149)	20
Potassium (mg/L)	6.6	(3.9-9.3)	20	5.7	(4.5-6.9)	20	5.9	(4.3-7.5)	20
Chloride (mg/L)	91	(83-100)	20	86	(82-90)	20	99	(88-110)	20
Total Protein (gms/dl)	5.9	(5.0-6.8)	20	6.6	(6.0-7.2)	20	7.2	(5.7-8.7)	20
Albumin (gms/dl)	3.8	(3.3-4.3)	20	3.9	(3.5-4.3)	20	4.2	(3.2-5.2)	20
Glogulin (gms/dl)	2.0	(1.3-2.7)	20	2.7	(2.4-3.0)	20	3.0	(2.4-3.6)	20
A/G Ratio	1.88	(1.14-2.62)	20	1.43	(1.17-1.69)	20	1.42	(1.18-1.66)	20
<b>N = Number of Animals Represented</b>									
<b>X = Means</b>									

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**Table 2**  
**CDF® (F-344)CrIBR Rats**  
**MALE**

Test	6-8 Weeks			19-21 Weeks			32-34 Weeks		
	X	Range ± 2S.D.	N	X	Range ± 2S.D.	N	X	Range ± 2S.D.	N
<b>HEMATOLOGY</b>									
Hematocrit (%)	43	(39-47)	20	46	(41-51)	20	49	(47-51)	20
Hemoglobin (gm / dl)	14.9	(12.3-17.5)	20	15.3	(13.5-17.1)	20	16.6	(14.8-18.4)	20
RBCs (x10 <sup>6</sup> /mm <sup>3</sup> )	5.38	(4.30-6.46)	20	7.62	(6.52-8.74)	20	5.51	(5.03-5.99)	20
WBCs (x10 <sup>3</sup> /mm <sup>3</sup> )	6.4	(3.1-9.7)	20	8.2	(5.2-11.2)	20	4.7	(3.4-6.0)	20
<b>DIFFERENTIAL %</b>									
Segmented Neutrophils	17	(3-32)	20	30	(14-46)	20	52	(40-60)	20
Band Neutrophil	0	(0-2)	20	0	(0-2)	20	0	(0-2)	20
Lymphocytes	78	(63-93)	20	68	(52-84)	20	46	(28-64)	20
Monocytes	4	(0-8)	20	1	(0-2)	20	2	(0-4)	20
Eosinophils	1	(0-2)	20	1	(0-2)	20	1	(0-2)	20
Basophils	0	(0-2)	20	0	(0-2)	20	0	(0-2)	20
Nucleated RBCS (per 100 WBCS)	0	(0-2)	20	0	(0-2)	20	0	(0-2)	20
Platelets (x10 <sup>5</sup> /mm <sup>3</sup> )	8.5	(8.00-9.00)	20	8.5	(8.00-9.00)	20	8.5	(8.00-9.00)	20
<b>ERYTHROCYTE INDICES</b>									
MCV(μ <sup>3</sup> )	79	(70-88)	20	61	(54-68)	20	89	(81-97)	20
MCHC(%)	35	(32-39)	20	33	(29-37)	20	34	(31-37)	20
MCH(μgm)	28	(25-31)	20	20	(18-22)	20	30	(27-33)	20

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**Table 3**  
**CDF® (F-344)CrIBR Rats**  
**MALE**

Test	6-8 Weeks			19-21 Weeks			32-34 Weeks		
	X	Range ± 2S.D.	N	X	Range ± 2S.D.	N	X	Range ± 2S.D.	N
<b>CLINICAL CHEMISTRY</b>									
Glucose (mg/dl)	204	(50-358)	20	224	(87-361)	20	202	(120-284)	20
BUN (mg/dl)	16	(13-19)	20	14	(11-17)	20	16	(10-22)	20
Creatinine (mg/dl)	0.6	(0.3-0.9)	20	0.8	(0.5-1.1)	20	0.6	(0.3-0.9)	20
Calcium (mg/dl)	12.2	(10.6-13.8)	20	11.5	(10.5-12.5)	20	11.0	(10.2-11.8)	20
Inorganic Phos (mg/dl)	13.3	(10.5-16.1)	20	10.1	(8.2-12.0)	20	9.7	(8.1-11.3)	20
Total Bilirubin (mg/dl)	0.2	(0.0-0.4)	20	0.1	(0.0-0.3)	20	0.4	(0.2-0.6)	20
Cholesterol (mg/dl)	46	(40-52)	20	34	(21-47)	20	26	(9-43)	20
Iron (mg/dl)	221	(137-305)	20	195	(147-243)	20	167	(131-203)	20
Alk Phos (I.U./L)	636	(506-766)	20	178	(114-242)	20	131	(97-165)	20
SGOT (I.U./L)	249	(25-473)	20	219	(48-390)	20	420	(152-688)	20
SGPT (I.U./L)	154	(68-240)	20	242	(108-376)	20	352	(116-588)	20
Sodium (mg/L)	141	(136-146)	20	147	(144-150)	20	148	(145-151)	20
Potassium (mg/L)	4.9	(3.8-6.0)	20	5.7	(3.9-7.5)	20	5.4	(4.4-6.4)	20
Chloride (mg/L)	97	(92-102)	20	100	(96-104)	20	99	(95-103)	20
Total Protein (gms/dl)	6.3	(5.9-6.7)	20	7.0	(6.2-7.8)	20	8.0	(7.4-8.6)	20
Albumin (gms/dl)	3.7	(3.4-4.0)	20	3.9	(3.4-4.3)	20	4.4	(3.9-4.9)	20
Glogulin (gms/dl)	2.7	(2.2-3.2)	20	3.1	(2.7-3.5)	20	3.6	(3.2-4.0)	20
A/G Ratio	1.36	(1.16-1.64)	20	1.23	(1.07-1.39)	20	1.21	(1.03-1.39)	20

**N = Number of Animals Represented**

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**Table 4**  
**CDF® (F-344)CrIBR Rats**  
**FEMALE**

Test	6-8 Weeks			19-21 Weeks			32-34 Weeks		
	X	Range ± 2S.D.	N	X	Range ± 2S.D.	N	X	Range ± 2S.D.	N
<b>HEMATOLOGY</b>									
Hematocrit (%)	40	(36-44)	20	50	(46-54)	20	42	(31-53)	20
Hemoglobin (gm / dl)	14.0	(12.1-15.9)	20	16.4	(14.6-18.2)	20	15.0	(10.4-19.6)	20
RBCs (x10 <sup>6</sup> /mm <sup>3</sup> )	5.35	(4.77-5.93)	20	7.00	(6.36-7.64)	20	5.05	(3.51-6.59)	20
WBCs (x10 <sup>3</sup> /mm <sup>3</sup> )	5.5	(1.7-9.3)	20	8.3	(6.3-10.3)	20	6.9	(4.1-9.7)	20
<b>DIFFERENTIAL %</b>									
Segmented Neutrophils	14	(0-28)	20	43	(25-61)	20	38	(24-52)	20
Band Neutrophil	0	(0-2)	20	0	(0-2)	20	0	(0-2)	20
Lymphocytes	83	(67-99)	20	52	(38-66)	20	56	(41-71)	20
Monocytes	3	(0-6)	20	5	(1-9)	20	4	(0-8)	20
Eosinophils	1	(0-2)	20	1	(0-2)	20	1	(0-2)	20
Basophils	0	(0-2)	20	0	(0-2)	20	0	(0-2)	20
Nucleated RBCS (per 100 WBCS)	0	(0-2)	20	0	(0-2)	20	0	(0-2)	20
Platelets (x10 <sup>5</sup> /mm <sup>3</sup> )	8.50	(8.00-9.00)	20	8.50	(8.00-9.00)	20	8.50	(8.00-9.00)	20
<b>ERYTHROCYTE INDICES</b>									
MCV(μ <sup>3</sup> )	76	(70-82)	20	72	(66-78)	20	83	(79-87)	20
MCHC(%)	35	(31-39)	20	33	(29-37)	20	36	(32-40)	20
MCH(μgm)	26	(23-29)	20	24	(21-27)	20	30	(27-34)	20

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## Baseline Hematology and Clinical Chemistry Values for Charles River Fischer344 Rats-CDF® (F-344)CrIBR as a Function of Sex and Age

**Table 5**  
CDF® (F-344)CrIBR Rats  
METHODOLOGY

CLINICAL CHEMISTRY		
Test	Unit	Method
Glucose*	mg / ml	Glucose Oxidase
BUN*	mg / dl	Nod. Marsh et al.
Creatinine*	mg / dl	Chasson, Grady & Stanley
Calcium*	mg / dl	Mod. Kessler & Gitelman
Inorganic Phosphorous*	mg / dl	Mod. Hurst & Kraml
Total Bilirubin*	mg / dl	Gambinos automated metod
Cholesterol*	mg / dl	Allain & Roeschlau et al.
Iron*	µg / dl	Automated procedure of Giouoniellow et al.
Alk Phos*	IU / L	Mod. Bessey, Lowry, & Brock
SGOT*	IU / L	Kessler, Leon, Delea & Cupiola
SGPT*	IU / L	Kessler, Leon, Delea & Cupiola
Sodium	meq / L	IL-ISE 502
Potassium	meq / L	IL-ISE 502
Chloride*	meq / L	Mod. Zall, Fisher & Ganer
Total Protein*	grms / dl	Biuret
Albumin*	grms / dl	Bromocresol Green
Globulin	grms / dl	Calculated
A/G Ratio*		Calculated

\*SMA 18/60 Micro Technicon

HEMATOLOGY		
Test	Unit	Method
Hematocrit	%	Coulter Counter, Model FN
Hemoglobin	gm / dl	Coulter Hemoglobinometer
Erythrocyte Count	x10 <sup>6</sup> / mm <sup>3</sup>	Coulter Counter, Model FN
Total Leukocyte Count	x10 <sup>3</sup> / mm <sup>3</sup>	Coulter Counter, Model FN
Platelet Estimate	x10 <sup>5</sup> / mm <sup>3</sup>	Stained Blood Smear
Differential Leukocyte Count	%	Stained Blood Smear (manual count)
Mean Corpuscular Volume (MCV)	U <sup>3</sup>	Calculated
Mean Corpuscular Hemoglobin Concentration (MCHC)	%	Calculated

