charles river
accelerating drug development. exactly.

research models

CD® IGS Rats

NOMENCLATURE: Crl:CD(SD)

Strain Origin

Originated in 1925 by Robert W. Dawley from a hybrid hooded male and a female Wistar rat. Transferred to Charles River in 1950 from Sprague Dawley, Inc. In 1991, eight colonies were selected to form the IGS foundation colony. Caesarean-rederived into an isolator foundation colony in 1997. IGS refers to animals bred using the Charles River International Genetic Standardization system.

Coat Color: White (Albino)

Produced: North America, Europe and Japan

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Genetic Management of CD® IGS Rat Colony

Charles River uses our International Genetic Standardization (IGS) program to manage production of the Crl:CD(SD) rat. The IGS program is a management system used to minimize inbreeding and manage random genetic drift that would otherwise lead to colony divergence among colonies bred in different locations worldwide. The IGS program is validated by direct genetic analysis of animals from the foundation colony and the barrier rooms. For the CD® IGS rat, analyses were carried out on animals from production colonies in Portage, MI; Hollister, CA; and Kingston, NY in 2004 and on Portage, MI; Raleigh, NC; Charles River UK; and Charles River France production colonies in 2008. Analyses for the Wilmington, MA, foundation colony were carried out in both 2004 and 2010. Across all colonies for the 110 microsatellite loci tested, average heterozygosity was not significantly different between testing periods or populations (range of 34.4% to 39.8% with most loci showing two or three alleles). These data indicate that the IGS program is working to maintain genetic variation in the CD® IGS, so animals from any location will not be significantly divergent from one another. Future testing for this and other IGS program colonies will be performed every three years for the foundation colony and every five years for each production colony. For further information regarding Charles River's IGS program, please refer to the IGS technical sheet found at www.criver.com/info/rm.

Charles River CD® IGS Data

We understand that knowing certain baseline parameters on your research model colonies is vital to achieving valid and reproducible research results. To help ensure that we are providing the exact research models that you need, we conduct routine health surveillance on our animal colonies for an extensive list of infectious agents, in addition to maintaining clinical and toxicological data for those models.

Clinical Chemistry[1]

Crl:CD(SD)*		ALB (g/dl)	ALK (U/l)	ALT (U/l)	AST (Ul)	TBIL (mg/dl)	BUN (mg/dl)
Male	Mean	3.79	382.68	65.01	113.67	0.24	14.19
	S.D.	0.33	93.61	32.28	64.46	0.07	4.29
	n	169	171	167	172	171	171
Female	Mean	3.92	202.82	56.72	111.88	0.21	13.45
	S.D.	0.53	62.67	32.40	65.11	0.07	4.19
	n	168	169	169	171	170	168

Crl:CD(SD)*		Ca (mg/dl)	Cl (meq/l)	CHOL (mg/dl)	CRE (mg/dl)	GGT (U/l)	GLU (mg/dl)
Male	Mean	12.34	106.54	102.63	0.45	2.93	227.18
	S.D.	1.02	7.40	26.34	0.11	2.35	87.04
	n	169	150	171	146	72	170
Female	Mean	12.35	106.12	95.24	0.47	3.38	249.79
	S.D.	1.03	7.76	22.31	0.10	2.17	98.25
	n	167	153	169	146	71	170

Crl:CD(SD)*		P (mg/dl)	K^+ (meq/l)	Na (meq/l)	TP (g/dl)	TRIG (mg/dl)
Male	Mean	12.51	8.47	151.70	7.02	157.86
	S.D.	2.05	1.62	10.08	0.58	97.42
	n	168	150	150	168	171
Female	Mean	11.37	8.61	149.10	7.30	111.59
	S.D.	1.90	8.09	14.16	0.64	56.95
	n	170	152	153	167	169

**North American colonies only/non-fasted values*

+Potassium values are artifactually elevated as a consequence of CO_2 euthanasia

Age: 56 - 70 days
Diet: Purina CRL (5L79) rodent chow
Temperature: 68 - 72°F
Humidity: 40 - 60%
Cage Density: 18.6 in²/rat

Screening Period: August 2006 to November 2007
Euthanasia: CO_2
Bleed Route: Cardiac puncture after euthanasia
Analyzing Equipment: Alfa Wassermann Ace Alera

[1]Additional data compiled from variously aged control groups used in safety assessment testing are available at www.criver.com.

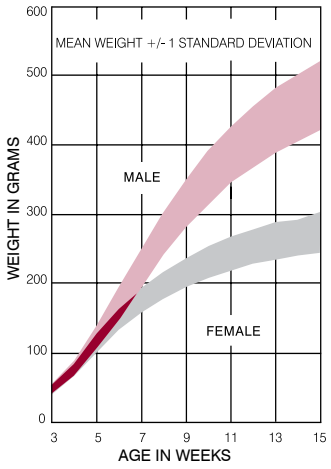
Hematology

Crl:CD(SD)*		WBC (K/μl)	RBC (M/μl)	HGB (g/dl)	HCT (%)	MCV (fL)
Male	Mean	10.83	7.60	17.27	51.12	67.33
	S.D.	3.84	1.17	2.94	8.30	4.66
	n	170	170	170	170	170
Female	Mean	10.17	7.37	16.52	48.45	65.49
	S.D.	3.72	1.09	2.72	7.14	6.46
	n	171	171	171	171	171

Crl:CD(SD)*		MCH (pg)	MCHC (g/dl)	RDW (%)	PLT (K/μl)	MPV (fL)
Male	Mean	22.70	33.84	15.87	1630.91	7.58
	S.D.	1.46	2.68	1.06	405.29	1.06
	n	170	170	170	170	170
Female	Mean	22.40	34.10	14.67	1583.22	7.48
	S.D.	1.35	2.34	0.89	378.23	0.98
	n	171	171	171	170	171

Crl:CD(SD)*		NEUT (K/μl)	LYMPH (K/μl)	MONO (K/μl)	EOS (K/μl)	BASO (K/μl)
Male	Mean	3.31	6.72	0.67	0.13	0.03
	S.D.	1.67	2.53	0.33	0.13	0.04
	n	170	170	170	170	170
Female	Mean	2.62	6.73	0.62	0.15	0.04
	S.D.	1.24	2.64	0.28	0.16	0.05
	n	171	171	171	171	171

**North American colonies only/non-fasted values*



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Screening Period: August 2006 to November 2007
Euthanasia: CO_2
Bleed Route: Cardiac puncture after euthanasia
Analyzing Equipment: Drew Scientific HemaVet

Charles River Technical Data (Available Online at www.criver.com)

2006: Clinical Laboratory Parameters for Crl: CD® (SD) Rats

2004: Compilation of Spontaneous Neoplastic Lesions and Survival in Crl: CD® (SD) Rats from Control Groups

2002: Postnatal Growth, Development and Behavioral/Functional Evaluation in Crl:CD® (SD) IGS BR Rats

2001: Compilation of Spontaneous Neoplastic Lesions and Survival in Crl: CD® (SD) Rats from Control Groups

1999: Clinical Chemistry and Hematology Control Values for Crl: CD® (SD) BR Rats Maintained on a Regimen of Caloric Restriction

1998: Spontaneous Neoplastic Lesions and Survival in Crl: CD® (SD) BR Rats Maintained on Dietary Restriction

1996: Historical Control Data (1992-1994) for Developmental and Reproductive Toxicity Studies using the Crl: CD® (SD) BR Rat

1993: Historical Control Data for Development and Reproductive Toxicity Studies using the Crl: CD® BR Rat

1993: Hematology Parameters for the Crl: CD® BR Rat

1993: Serum Chemistry Parameters for the Crl:CD® BR Rat

1992: Spontaneous Neoplastic Lesions and Selected Non-Neoplastic Lesions in the Crl: CD® BR Rat

1991: Spontaneous Ophthalmic Lesions in the Crl:CD® BR Rat

Research Applications and References

The CD® IGS rat is a multipurpose model that can be used in such fields as toxicology (safety and efficacy testing), aging and oncology.

General Purpose

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Reproductive Toxicology

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Carcinogenesis

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Oncology

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