


charles river

Research Models and Services

2024 Catalog





Introducing a New Online Ordering Experience

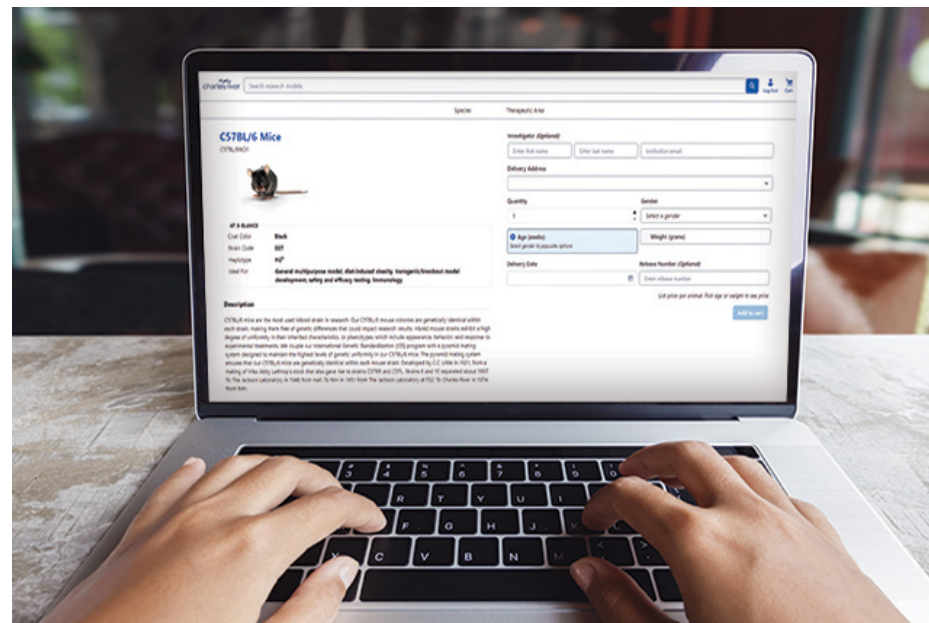
Sourcing Your Research Models Just Got Easier

As part of our commitment to improving your experience with us, we've incorporated your feedback to help create a new digital platform to enable a more efficient way to procure research models. With seamless real-time access to inventory and pricing, we've reimagined how you responsibly source your research models.

Authorized buyers/procurement personnel have full account access. They can customize order specifications to view pricing, live inventory, and place orders.

Researchers/qualified personnel in other roles may view and share the pricing with their procurement personnel and, if it complements the internal process, the procurement team can seamlessly complete the order process.

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The Charles River Accelerator and Development Lab (CRADL®)

CRADL®

Glossary of Terms



Contact Us

Our customer service representatives strive to make the research model order and shipment process as easy as possible for you. We offer three ways for you to order research models: phone, email, and online ordering.

Phone: [1.800.522.7287](tel:1.800.522.7287)

Email: researchmodels@crl.com

Online ordering: [Animal Model Ordering](#)

Ordering Information

[Learn More](#)

To accommodate your need for prompt shipment, sales are made based on telephone orders without written documentation. Email confirmation of orders are available upon request. Our acceptance of your order is expressly made conditional on your consent to our [General Terms and Conditions of Sale](#), and our prices have been set accordingly.

Any provision of a purchase order or confirmation that is additional to, or conflicts with, our General Terms and Conditions of Sale is expressly rejected and shall not be binding on us. Please consider this before placing your order.

Some animal models are produced only in small quantities. Upon your request, we will work to scale up our colony production to meet your needs.

The prices in this catalog are for customers located in the United States who are purchasing research models and services sourced from the United States. All other customers should contact Customer Service for pricing in your region.

Birth Dates - Age of animals are furnished on shipping documents for orders placed by age and are based on cohort of specified animals that all share the same week of birth encompassing a defined seven-day period, once per week the entire cohort ages to the next age bracket. Exact age placed orders will have confirmed birth dates of the specified animals.

Age/Weight Correlation - Our research models are sold within specific weight ranges or at a certain age as given as given in the catalog. For specific orders outside the standard weight range or age, additional charges may apply.

Pregnant Animal Guarantee Policy - Charles River produces pregnant animals to your order specifications. Most barrier-reared rats and mice can be safely and accurately palpated for pregnancy after 13 days of gestation. Prior to that, pregnancy is determined by observation of a vaginal plug. Following timed exposure to the male, the date the copulatory plug is found (plug date) is considered to be day one of gestation unless noted otherwise.

Cancellation Policies - A full list of cancellation policies can be found on our website. We reserve the right to charge for late cancelations or changes to confirmed orders and/or delivery arrangement.

Shipping and Transportation Policies for Animal Orders

[Learn More](#)

Filtered (Sew Easy™ and Tear Easy) Shipping Container Densities

It is our responsibility to maintain the strictest health and welfare standards when shipping our animals, not only because it's the right thing to do, but because our animals are vital to your research. To help make the comfort and care of our animals a priority, we provide several crates that are tailored to established shipping density guidelines for a variety of species. Our shipping crates have viewing windows that allow you to inspect the animals and assess their interior conditions during and after shipping. The interior of our filtered crates is UV-light irradiated prior to packing animals, and our individual Gnoto-safe® plastic containers are disinfected with a cold sterilant prior to packing the animals.

Shipments Outside North America - Import/Export Preparation Charges apply.



VAF Health Profiles

[Learn More](#)

Charles River is committed to providing you with high-quality genetically standardized models such as VAF/Plus[®] and VAF/Elite[®] animals, which are free of select infectious agents and parasites. We understand that selecting the appropriate animal model for your studies is critical to your research success.

For further information regarding viral profiles, microbiological flora, or the comprehensive list of agents included and excluded in the Charles River health surveillance program, visit the Health Reports section of our website.

International Genetic Standardization (IGS) Program

[Learn More](#)

Our unique International Genetic Standardization (IGS) program is designed to manage the health and genetics of your inbred/outbred mice and rat strains to ensure high quality and uniformity, regardless of where they are bred. The IGS management system is validated by genetic monitoring of animals from the central Foundation colonies and each global production barrier room.

Our genetic monitoring program utilizes single nucleotide polymorphism markers (SNPs) distributed across all chromosomes. Outbred models are assessed once annually to assess whether colonies maintain similar levels of genetic variability, thus indicating that the breeding and migration program is successful in minimizing genetic drift between colonies.

For inbred colonies, genetic monitoring is performed on animals from each barrier room production colony once quarterly utilizing a panel of SNP markers designed to distinguish all inbred strains bred at our facilities from one another to certify the genetic authenticity of each inbred strain.



Rat Models

Charles River is dedicated to providing you with consistent availability of the highest quality research models globally. Our comprehensive portfolio of outbred, inbred, and disease/translational rat models enables you to select the appropriate animal model for your research.





CD® IGS (Sprague Dawley) Rats

specify CD

Strain Code: 001

Nomenclature: Crl:CD(SD)

[Strain Page](#)



Long-Evans Rats

Strain Code: 006

Nomenclature Crl:LE

[Strain Page](#)



Wistar IGS Rats

Strain Code: 003

Nomenclature Crl:WI

[Strain Page](#)



Wistar Han IGS Rats

Strain Code: 273

Nomenclature Crl:WI(Han)

[Strain Page](#)

Weight in Grams	Male	Female	Male	Female	Male	Female	Male	Female
	Price	Price	Price	Price	Price	Price	Price	Price
Up to 50	27.25	27.33	34.86	35.32	27.98	28.62	29.60	29.66
51-75	34.57	36.20	41.10	43.97	35.39	38.12	37.72	40.79
76-100	42.48	44.22	49.70	52.04	42.74	45.21	45.80	48.66
101-125	48.18	50.05	55.62	57.25	49.70	52.49	53.48	55.62
126-150	55.62	61.39	60.69	62.77	55.49	59.32	58.28	64.20
151-175	59.12	67.21	64.59	72.91	59.00	66.22	61.02	68.56
176-200	68.95	72.39	71.42	77.08	68.10	71.16	69.14	75.06
201-225	73.55	76.59	76.30	85.02	73.71	75.98	75.98	80.66
226-250	79.97	83.15	86.71	92.05	79.89	81.96	83.97	-
251-275	86.06	93.76	94.78	104.40	86.19	-	88.60	-
276-300	89.75	-	99.72	-	90.16	-	93.02	-
301-325	94.86	-	106.04	-	92.82	-	100.50	-
326-350	104.05	-	Upon Request		Upon Request		Upon Request	
351-plus	Upon Request		-	-	-	-	-	-
Retired breeders	69.08	67.21	72.01	71.36	69.67	69.14	72.91	70.20
Lactating rat with litter	-	246.32	-	270.15	-	247.05	-	259.21
Timed pregnant*	-	242.45	-	250.77	-	230.46	-	252.80
Untimed pregnant*	-	203.24	-	205.50	-	192.81	-	211.66

* For timed and untimed pregnant, please see our pregnant animal guarantee policy.



Brown Norway Rats

specify BN

Strain Code: 091

Nomenclature: BN/Crl

[Strain Page](#)



Fischer Rats

specify CDF™

Strain Code: 002

Nomenclature: F344/DuCrI

[Strain Page](#)



Lewis Rats

Strain Code: 004

Nomenclature: LEW/Crl

[Strain Page](#)



SRG Rats®§

Strain Code: 707

Nomenclature: Sprague Dawley-
Rag2^{em2hera}||2rg^{em1hera}||HblCrI

[Strain Page](#)

Age in Weeks*	Male		Female		Male		Female		Commercial Price	Academic Price
	Price	Price	Price	Price	Price	Price	Price	Price	Price	
3 (21-27 days)	109.29	111.03	55.94	60.81	78.59	75.89	407.08	325.67		
4 (28-34 days)	124.69	139.76	69.02	66.77	87.91	86.05	424.61	350.60		
5 (35-41 days)	151.96	168.57	82.43	81.60	92.96	95.38	442.14	375.53		
6 (42-48 days)	174.32	203.92	90.20	91.22	112.85	109.81	459.67	400.46		
7 (49-55 days)	212.36	203.92	101.52	109.16	131.71	118.28	477.20	425.39		
8 (56-62 days)	220.91	238.23	107.88	109.16	141.28	130.40	494.73	450.33		
9 (63-69 days)	250.94	238.23	120.48	109.16	148.58	130.40	512.26	475.26		
10-plus	Upon Request									
Retired breeders	120.77	116.33	79.64	78.14	91.01	87.68	-	-		
Lactating rat with litter	-	693.10	-	446.36	-	426.45	-	-		
Timed pregnant**	-	577.65	-	362.78	-	366.95	-	-		
Untimed pregnant**	-	530.10	-	326.55	-	285.88	-	-		

* Estimated age

** For timed and untimed pregnant, please see our pregnant animal guarantee policy.

§ SRG Rat® is a registered trademark of Hera Biolabs. SRG Rat® Registered trademark is used with permission from Hera Biolabs.

Disease/Translational Models



Characteristic	Dahl/SS	SHR	ZDF	ZSF1	Zucker
Insulin resistance	+	+	+	+	+
Hyperinsulinemia	+	+	+	+	+
Type 2 diabetes	-	-	+	+	-
Fasting hyperglycemia	-	-	+	+	-
Hypertension	+	+	-	+	-
Obesity	-	-	+	+	+
Cardiovascular disease	-	-	-	-	-
Hypertriglyceridemia	+	+	+	+	+
Hypercholesterolemia	+	+	+	+	+
Nephropathy	+	-	+, 1	+, 2	+, 1
Leptin receptor defect	-	-	+	+	+
Special diet requirements	+	-	+	+	-
Genetics	I	I	I	H	O

NOTE: Please contact Customer Service at 1.800.522.7287 for information on preconditioning of animal models from Charles River. For more information, please refer to our Preconditioning Services section.

Overview of Characteristics

+ Exhibits the characteristic

- Does not exhibit the characteristic

1 Hydronephrosis (interference)

2 Hydronephrosis (interference) is found infrequently

I Inbred

O Outbred

H Hybrid



Dahl/Salt-Sensitive Rats (Dahl/ss)

Strain Code: 320

Nomenclature: SS/JrHsdMcwiCrl

[Strain Page](#)



SHR Rats

Strain Code: 007

Nomenclature: SHR/NCrl

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Zucker Rats

Strain Code: 185 (Obese)

Nomenclature: Crl:ZUC-*Lepr^{fa}*

[Strain Page](#)

Strain Code: 186 (Lean)

Nomenclature: Crl:ZUC-*Lepr^{fa}*

[Strain Page](#)

Age in Weeks*	Dahl/Salt-Sensitive Rats (Dahl/ss)		SHR Rats		Zucker Rats (Obese)		Zucker Rats (Lean)	
	Male Price	Female Price	Male Price	Female Price	Male Price	Female Price	Male Price	Female Price
3 (21-27 days)	236.74	232.26	166.75	161.60	-	-	-	-
4 (28-34 days)	253.61	248.61	179.98	173.37	575.25	553.89	145.95	140.50
5 (35-41 days)	266.69	261.68	199.57	199.31	602.43	580.03	151.78	146.25
6 (42-48 days)	283.11	277.81	213.07	212.73	633.48	609.97	171.80	165.37
7 (49-55 days)	295.65	289.90	233.62	233.44	680.21	654.91	189.19	182.09
8 (56-62 days)	319.17	313.04	256.26	254.60	718.30	691.49	206.65	199.03
9 (63-69 days)	Upon Request		278.99	277.34	754.57	726.73	215.54	207.55
10 (70-76 days)	-	-	306.85	288.65	789.51	760.32	224.20	215.77
11 (77-83 days)	-	-	336.37	316.24	810.57	780.56	233.69	224.94
12 (84-90 days)	-	-	371.38	349.26	834.77	803.77	247.27	238.17
13 (91-97 days)	-	-	394.70	371.19	896.28	862.91	261.61	251.91
14 (98-104 days)	-	-	434.40	408.63	-	-	-	-
15 (105-111 days)	-	-	459.83	432.32	-	-	-	-
16-plus	-	-	Upon Request		-	-	-	-
Retired breeders	-	-	234.74	226.04	-	-	-	240.32
Lactating rat with litter	-	-	-	1036.52	-	-	-	-
Timed pregnant**	-	570.25	-	809.70	-	-	-	-
Untimed pregnant**	-	-	-	759.02	-	-	-	-

* Estimated age

** For timed and untimed pregnant, please see our pregnant animal guarantee policy.



ZDF Rats

Strain Code: 370 (Obese)
Nomenclature: ZDF-*Lepr^{fa}*/Crl

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Strain Code: 380 (Lean fa/+)
Nomenclature: ZDF-*Lepr^{fa}*/Crl

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ZSF1 Rats

Strain Code: 378 (Obese)
Nomenclature: ZSF1-*Lepr^{fa}Lepr^{cp}*/Crl

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Strain Code: 379 (Lean +/-)
Nomenclature: ZSF1-*Lepr^{fa}Lepr^{cp}*/Crl

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Age in Weeks*	Male	Female	Male	Female	Male	Female	Male	Female
	Price	Price	Price	Price	Price	Price	Price	Price
3-5 (21-41 days)	808.18	576.74	413.99	413.99	836.93	605.64	328.42	323.79
6 (42-48 days)	835.06	603.83	442.80	442.80	867.76	635.50	358.74	353.73
7 (49-55 days)	862.46	631.47	471.32	471.32	897.54	665.87	389.05	383.67
8 (56-62 days)	889.85	658.64	499.54	499.54	927.41	696.20	418.91	414.43
9 (63-69 days)	916.81	685.66	528.58	528.58	958.03	726.59	449.21	444.07
10 (70-76 days)	948.39	717.31	547.18	547.18	993.41	761.81	470.57	465.34
11-plus	Upon Request							

* Estimated age

** For timed and untimed pregnant, please see our pregnant animal guarantee policy.



Mouse Models

With more than 100 strains of mouse models, Charles River is positioned to provide you with the mouse models you require to meet your program goals. Our global network of production facilities ensures that you have consistent access to these models, regardless of location.





CD-1® IGS Mice

Strain Code: 022

Nomenclature: CrI:CD1(ICR)

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CF-1™ Mice

Strain Code: 023

Nomenclature: CrI:CF1

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CFW® Mice (Swiss Webster)

Strain Code: 024

Nomenclature: CrI:CFW(SW)

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Weight in Grams	Male	Female	Male	Female	Male	Female
	Price	Price	Price	Price	Price	Price
Up to 12	11.13	10.88	11.39	11.39	11.38	11.38
13-15	12.18	12.18	12.50	12.50	12.31	12.51
16-18	12.24	12.24	12.56	12.56	12.38	12.57
19-21	12.50	12.50	12.63	12.63	12.91	12.91
22-24	12.69	12.69	12.69	12.69	13.18	13.18
25-plus	Upon Request					
Retired breeders	12.69	12.04	12.50	12.04	12.51	12.31
Lactating mouse with litter	-	133.45	-	136.11	-	137.80
Timed pregnant*	-	95.08	-	93.37	-	94.61
Untimed pregnant*	-	62.78	-	61.64	-	62.41

* For timed and untimed pregnant, please see our pregnant animal guarantee policy.



CD1-Elite Mice

(VAF/Elite® Health Status)**

Strain Code: 482

Nomenclature: Crl:CD1(ICR)

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SKH1-Elite Mice** †

Strain Code: 477

Nomenclature: Crl:SKH1-*Hr^{hr}*

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Athymic HE

(VAF/Elite® Health Status)**

Strain Code: 491

Nomenclature: Crl:NU(NCr)-*Foxn1^{nu}*

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NU HE

(VAF/Elite® Health Status)**

Strain Code: 089

Nomenclature: Crl:NU-*Foxn1^{nu}*

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Age in Weeks*	Male	Female	Male	Female	Female	Female
	Price	Price	Price	Price	Price	Price
3-5 (21-41 days)	-	-	-	-	19.57	19.57
3 (21-27 days)	32.46	32.02	65.68	65.68	-	-
4 (28-34 days)	32.94	32.27	71.29	71.29	-	-
5 (35-41 days)	33.31	32.46	74.81	74.81	-	-
6 (42-48 days)	33.48	32.94	76.44	76.44	-	-
7 (49-55 days)	41.43	40.52	80.03	80.03	-	-
56-plus	Upon Request				-	-
Retired breeders	-	-	77.89	77.89	-	-
Lactating mouse with litter	-	-	-	581.83	-	-
Untimed pregnant [§]	-	-	-	417.62	-	-

* Estimated age

** Information regarding the VAF/Elite® health profile can be found in the research models overview section.

† Isolator-maintained

§ For untimed pregnant, please see our pregnant animal guarantee policy.



129-Elite Mice †**
Strain Code: 476

Nomenclature: 129S2/SvPasCrI

[Strain Page](#)



B6 Albino Mice†
Strain Code: 493

Nomenclature: B6N-Tyr^{c-Brd}/BrdCrCrI

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NCI B6-Ly5.1/Cr Mice
Strain Code: 564

Nomenclature: B6.SJL-Ptprc^aPepc^b/BoyCrCrI

[Strain Page](#)



C3H Mice
Strain Code: 025

Nomenclature: C3H/HeNCrI

[Strain Page](#)

Age in Weeks*	Male	Female	Male	Female	Male	Female	Male	Female	
	Price	Price	Price	Price	Price	Price	Price	Price	
3 (21-27 days)	45.99	49.29	54.31	55.11	61.00	61.00	43.70	45.15	
4 (28-34 days)	51.70	55.67	56.65	57.69	65.42	65.42	45.56	46.70	
5 (35-41 days)	55.67	58.67	58.91	60.01	69.94	69.94	49.71	49.71	
6 (42-48 days)	58.67	62.52	69.02	64.91	74.60	74.60	56.15	53.45	
7 (49-55 days)	65.76	69.55	74.22	69.86	79.11	79.11	57.23	54.28	
8 (56-62 days)	Upon Request		76.86	76.86	83.62	83.62	60.35	58.62	
9 (63-69 days)	-	-	Upon Request			-	-	71.17	59.69
10 (70-76 days)	-	-	-	-	-	-	81.87	63.84	
11-plus	-	-	-	-	-	-	Upon Request		
Retired breeders	39.02	38.71	-	-	53.13	53.13	35.88	35.88	
Lactating mouse with litter	-	327.14	-	-	-	-	-	333.93	
Timed pregnant [§]	-	-	-	-	-	-	-	285.84	
Untimed pregnant [§]	-	294.19	-	-	-	-	-	285.84	

* Estimated age

** Information regarding the VAF/Elite® health profile can be found in the research models overview section.

† Isolator-maintained

§ For timed and untimed pregnant, please see our pregnant animal guarantee policy.



BALB/c-Elite Mice †**

Strain Code: 547

Nomenclature: BALB/cAnNCrI

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BALB/c Mice

Strain Code: 028

Nomenclature: BALB/cAnNCrI

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DBA/2 Mice

Strain Code: 026

Nomenclature: DBA/2NCrI

[Strain Page](#)



SJL-Elite Mice †**

Strain Code: 478

Nomenclature: SJL/JOrIcoCrI

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Age in Weeks*	Male	Female	Male	Female	Male	Female	Male	Female
	Price	Price	Price	Price	Price	Price	Price	Price
3 (21-27 days)	56.41	60.90	37.31	39.67	55.30	52.30	45.03	48.45
4 (28-34 days)	58.54	62.96	39.85	40.77	58.44	61.19	48.09	51.04
5 (35-41 days)	60.11	64.84	44.46	43.38	62.93	62.39	50.81	57.95
6 (42-48 days)	66.73	66.97	45.26	44.10	64.14	63.48	53.81	58.67
7 (49-55 days)	69.88	69.03	50.22	47.01	70.38	64.63	56.45	61.73
8 (56-62 days)	72.92	70.49	51.20	48.05	71.66	67.69	Upon Request	
9 (63-69 days)	75.22	74.80	52.22	48.90	72.92	68.29	-	-
10-plus	Upon Request						-	-
Retired breeders	48.16	48.16	31.90	31.90	43.33	43.33	38.89	38.89
Lactating mouse with litter	-	-	-	289.71	-	350.16	-	362.84
Timed pregnant§	-	-	-	260.23	-	305.43	-	-
Untimed pregnant§	-	-	-	260.23	-	305.43	-	312.46

* Estimated age

** Information regarding the VAF/Elite® health profile can be found in the research models overview section.

† Isolator-maintained

§ For timed and untimed pregnant, please see our pregnant animal guarantee policy.



C57BL/6 Mice^{§§}

Strain Code: 027

Nomenclature: C57BL/6NCrI

[Strain Page](#)



C57BL/6-Elite Mice^{ †}**

Strain Code: 475

Nomenclature: C57BL/6NCrI

[Strain Page](#)



C57BL/6-Germ-Free Mice^{†††}

Strain Code: 574

Nomenclature: C57BL/6NCrI

[Strain Page](#)

Age in Weeks*	Male	Female	Male	Female	Male	Female
	Price	Price	Price	Price	Price	Price
3 (21-27 days)	35.42	38.10	54.80	60.17	368.59	368.59
4 (28-34 days)	38.39	39.91	59.04	64.83	396.90	396.90
5 (35-41 days)	41.49	42.07	62.58	65.94	425.27	425.27
6 (42-48 days)	47.68	42.96	73.09	67.25	453.66	453.66
7 (49-55 days)	48.50	44.94	74.56	68.73	481.97	481.97
8 (56-62 days)	49.02	45.81	75.97	70.08	510.34	510.34
9 (63-69 days)	50.25	46.69	87.53	70.73	538.71	538.71
10 (70-76 days)	52.53	47.04	Upon Request		567.02	567.02
11-plus	Upon Request		-	-	Upon Request	
Retired breeders	31.61	30.73	47.72	47.72	-	-
Lactating mouse with litter	-	354.74	-	546.54	-	-
Timed pregnant [§]	-	315.15	-	-	-	-
Untimed pregnant [§]	-	315.15	-	363.85	-	-

* Estimated age

** Information regarding the VAF/Elite[®] health profile can be found in the research models overview section.

† Isolator-maintained

†† Specialty model. Discounts may not apply.

§ For timed and untimed pregnant, please see our pregnant animal guarantee policy.

§§ C57BL/6 mice are raised as age cohorts and shipped as such to minimize aggression, and divided or additional crates may be used to maintain original cohorts. Upon arrival at your facility, we recommend maintaining the housing group to preserve the established hierarchies whenever possible.



C57BL/6 Aged Mice**

Strain Code: 701

Nomenclature: C57BL/6NCr

[Strain Page](#)



FVB Mice

Strain Code: 207

Nomenclature: FVB/NCrI

[Strain Page](#)

Age in Weeks*	Male	Female	Age in Weeks*	Male	Female	Age in Weeks*	Male	Female
	Price	Price		Price	Price		Price	Price
26	109.61	95.84	53	229.65	230.81	3-4 (21-34 days)	40.94	44.79
27	112.95	102.51	54	235.41	236.57	5-6 (35-48 days)	47.44	51.46
28	116.28	109.73	55	241.29	242.45	7-8 (49-62 days)	56.33	59.33
29	119.80	116.83	56	247.30	248.52	9-10 (63-76 days)	66.78	69.61
30	123.38	123.99	57	253.49	254.71	11-12 (77-90 days)	76.95	78.51
31	127.08	127.69	58	259.19	260.47	13-plus	Upon Request	
32	130.90	131.51	59	265.02	266.35	Retired breeders	33.31	33.31
33	134.79	135.45	60	271.63	272.97	Timed/Untimed pregnant [§]	-	372.09
34	138.86	139.52	61	277.09	278.42			
35	142.98	143.71	62	282.62	284.01			
36	147.27	148.01	63	288.25	289.71			
37	151.71	152.49	64	294.01	295.47			
38	156.26	157.05	65	299.96	301.42			
39	160.98	161.78	66	312.02	308.57			
40	165.78	166.63	67	318.27	313.55			
41	170.76	171.61	68	324.65	319.85			
42	175.01	175.92	69	331.14	326.22			
43	179.42	180.29	70	334.11	332.78			
44	183.93	184.82	71	342.85	339.39			
45	188.46	189.44	72	347.94	344.48			
46	193.20	194.16	73	350.23	349.70			
47	198.05	199.01	74	353.16	354.91			
48	202.97	203.99	75	358.49	360.26			
49	208.06	209.08	76	363.82	365.64			
50	213.28	214.30	77	365.59	367.41			
51	218.56	219.65	78-plus	Upon Request				
52	224.02	225.17						

* Estimated age
§ For timed and untimed pregnant, please see our pregnant animal guarantee policy

C57BL/6 mice are raised as age cohorts and shipped as such to minimize aggression, and divided or additional crates may be used to maintain original cohorts. Upon arrival at your facility, we recommend maintaining the housing group to preserve the established hierarchies whenever possible



B6C3F1 Mice

Strain Code: 031

Nomenclature: B6C3F1/Crl

[Strain Page](#)



B6D2F1 Mice

Specify BDF1

Strain Code: 099

Nomenclature: B6D2F1/Crl

[Strain Page](#)



CB6F1 Mice

Strain Code: 176

Nomenclature: CB6F1/Crl

[Strain Page](#)



CD2F1 Mice

Specify CDF1

Strain Code: 033

Nomenclature: CD2F1/Crl

[Strain Page](#)

Age in Weeks*	Male	Female	Male	Female	Male	Female	Male	Female
	Price	Price	Price	Price	Price	Price	Price	Price
3 (21-27 days)	43.80	47.86	41.19	44.81	45.14	50.28	47.15	49.06
4 (28-34 days)	47.16	49.39	46.15	46.91	46.41	51.55	52.32	50.88
5 (35-41 days)	56.51	54.53	55.31	49.06	48.31	55.49	52.32	52.91
6 (42-48 days)	62.11	54.53	61.15	52.64	51.03	55.49	59.90	56.36
7 (49-55 days)	73.86	54.53	71.83	52.64	51.03	55.49	59.90	56.36
8 (56-62 days)	78.87	54.53	83.15	52.64	57.65	55.49	59.90	56.36
9-plus	Upon Request							

* Estimated age



Immunodeficient Models

Charles River offers a global portfolio of high-quality immunodeficient models for your research needs. From oncology to immunology and infectious diseases, explore how your research will benefit by partnering with an industry leader offering an infrastructure capable of advancing your research now and into the future.





Immunodeficient Rat and Mouse Models - Overview of Characteristics



Characteristic	Athymic Nude	Fox Chase SCID®	Fox Chase SCID® Beige	NCG/NCG Plus	NOD SCID	BALB/c Nude
Strain Code	490 (Homozygous) 491 (Heterozygous)	236	250	572	394	194 (Homozygous) 195 (Heterozygous)
Hair Coat	No	Yes	Yes	Yes*	Yes	No
T Cell Deficient	Yes	Yes	Yes	Yes	Yes	Yes
B Cell Deficient	No	Yes	Yes	Yes	Yes	No
NK Cell Deficient	No	No	Impaired	Yes	Impaired	No
Species	Mouse	Mouse	Mouse	Mouse	Mouse	Mouse
Genetics	Outbred	Congenic	Congenic	Coisogenic	Congenic	Inbred

*NCG Plus hairless model coming in 2024.



Characteristic	CD-1® Nude	NIH-III Nude	NU/NU Nude	RNU Nude	SRG	SHO™	NCI SCID/NCr
Strain Code	086 (Homozygous) 087 (Heterozygous)	201 (Homozygous) 202 (Heterozygous)	088 (Homozygous) 089 (Heterozygous)	316 (Homozygous) 118 (Heterozygous)	707	474	561
Hair Coat	No	No	No	No	Yes	No	Yes
T Cell Deficient	Yes	Yes	Yes	Yes	Yes	Yes	Yes
B Cell Deficient	No	Yes	No	No	Yes	Yes	Yes
NK Cell Deficient	No	Impaired	No	No	Yes	No	No
Species	Mouse	Mouse	Mouse	Rat	Rat	Mouse	Mouse
Genetics	Outbred	Outbred	Outbred	Outbred	Inbred	Outbred	Congenic



The NCG Plus Portfolio

The NCG Plus Portfolio is a collection of next generation mouse models based on our triple-immunodeficient NCG mouse. Each additional NCG strain is as immunodeficient as the NCG with additional modifications that offers a specific utility, expanding the scope of your preclinical research in oncology, cell biology and infectious disease.

These mice are capable of hosting human tissues and cells and can also be immune humanized using human peripheral blood mononuclear cells (PBMCs) or human hematopoietic stem cells (HSCs).

Strain Name	Utility	Status
NCG	Triple-immunodeficient (T, B and NK cell deficient) mouse capable of hosting human tissue and/or immune cells. Baseline model for the NCG Plus strains.	Available <ul style="list-style-type: none"> • Pre-humanized HuPBMC-NCG • Pre-humanized HuCD34-NCG
NCG-M	Supports the reconstruction of multiple lineages of human immune cells including myeloid cells	Available
NCG-X	Impairs mouse hematopoiesis allowing for human cell engraftment without myeloablation	Available
NCG-B2m-KO	Delayed onset of xenogeneic GvHD	Available
NCG-HLA-A2.1	Allows for functional maturation of human hematopoietic cells	Available
NCG-hiL15	Higher levels of NK cells	Available
NCG-hiL2	NK cell expansion	Available
NCG-hACE2	Increased susceptibility to SARS-CoV-2 infection	Available through cryo-recovery
NCG-Hairless	Easier visualization and measurement of tumors	Coming 2024
NCG-CAG-tdTomato	Distinguish between mouse and human derived cells	Coming 2024



NCG Mice* †
Strain Code: 572

Nomenclature: NOD-Prkdc^{em26Cd52}Il2rg^{em26Cd22}/NjuCrI

[Strain Page](#)

Commercial Pricing

Age in Weeks [‡]	Male	Female
	Price	Price
3-4 (21-34 days)	224.52	268.58
5 (35-41 days)	228.82	272.76
6 (42-48 days)	233.06	277.01
7 (49-55 days)	237.31	281.32
8 (56-62 days)	241.50	285.56
9 (63-69 days)	245.80	289.81
10 (70-76 days)	249.99	294.12
11-plus	Upon Request	

Non-Profit/Academic Pricing

Age in Weeks [‡]	Male	Female
	Price	Price
3-7 (21-55 days)	92.02	120.51
8 (56-62 days)	98.16	126.29
9 (63-69 days)	104.29	128.83
10 (70-76 days)	110.43	135.50
11-plus	Upon Request	

* Coisogenic, isolator-maintained

† Specialty model. Discounts may not apply.

‡ Estimated age



NCG-X Mice^{† †}
Strain Code: 717

Nomenclature: NOD/ShiLtJGpt-Prkdc^{em26Cd}
52Il2rg^{em26Cd22kit^{em1Cin(V831M)}}/GptCrI

[Strain Page](#)



NCG-M Mice^{† †}
Strain Code: 715

Nomenclature: NOD/ShiLtJGpt-Prkdc^{em2}
6Cd52Il2rg^{em26Cd22Rosa26^{em1Cin(hCSF2&IL3&KITLG)}}/GptCrI

[Strain Page](#)



NCG-B2m-KO Mice^{† †}
Strain Code: 721

Nomenclature: NOD/ShiLtJGpt-Prkdc^{em26Cd52Il2rg^{em26Cd22/B2m^{em21Cd4}}}/GptCrI

[Strain Page](#)



NCG-HLA-A2.1 Mice^{† †}
Strain Code: 720

Nomenclature: NOD/ShiLtJGpt-Prkdc^{em26Cd52Il2rg^{em26Cd22/H2-K1^{emCin(HLA-A2.1)}}}/GptCrI

[Strain Page](#)

Commercial Pricing

Age in Weeks*	Male	Female	Male	Female	Male	Female	Male	Female
	Price	Price	Price	Price	Price	Price	Price	Price
3-5 (21-41 days)	229.42	266.47	229.42	266.47	229.42	266.47	229.42	266.47
6 (42-48 days)	234.14	271.19	234.14	271.19	234.14	271.19	234.14	271.19
7 (49-55 days)	238.88	275.92	238.88	275.92	238.88	275.92	238.88	275.92
8 (56-62 days)	243.59	280.64	243.59	280.64	243.59	280.64	243.59	280.64
9 (63-69 days)	250.09	287.13	250.09	287.13	250.09	287.13	250.09	287.13
10 (70-76 days)	256.58	293.63	256.58	293.63	256.58	293.63	256.58	293.63
11-plus	Upon Request							

Non-Profit/Academic Pricing

Age in Weeks*	Male	Female	Male	Female	Male	Female	Male	Female
	Price	Price	Price	Price	Price	Price	Price	Price
3-7 (21-55 days)	92.02	120.51	92.02	120.51	92.02	120.51	92.02	120.51
8 (56-62 days)	98.16	126.29	98.16	126.29	98.16	126.29	98.16	126.29
9 (63-69 days)	104.29	128.83	104.29	128.83	104.29	128.83	104.29	128.83
10 (70-76 days)	110.43	135.50	110.43	135.50	110.43	135.50	110.43	135.50
11-plus	Upon Request							

* Estimated age
† Isolator-maintained
†† Specialty model. Discounts may not apply.

hACE2-NGC Mice

Cryopreserved

Nomenclature: NOD/ShiLtJGpt-Prkdc^{em26Cd52Il2rg^{em26Cd22/H2-K1^{emCin(HLA-A2.1)}}}/GptCrI

[Strain Page](#)

This novel, engineered model has been introduced to expand the scope of humanized research and support translational research for COVID-19.



NCG/PBMC Select Humanization Kit* †

[Learn More](#)

Commercial Pricing

Age in Weeks‡	Male	Female
	Price	Price
3-4 (21-34 days)	315.52	359.58
5 (35-41 days)	319.82	363.76
6 (42-48 days)	324.06	368.01
7 (49-55 days)	328.31	372.32
8 (56-62 days)	332.50	376.56
9 (63-69 days)	336.80	380.81
10 (70-76 days)	340.99	385.12
11-plus	Upon Request	

Non-Profit/Academic Pricing

Age in Weeks‡	Male	Female
	Price	Price
3-7 (21-55 days)	183.02	211.51
8 (56-62 days)	189.16	217.29
9 (63-69 days)	195.29	219.83
10 (70-76 days)	201.43	226.50
11-plus	Upon Request	

* The kit is made up of five mice and one vial of 50 million PBMCs or 10 mice and one vial of 100 million PBMCs.

† Shipping of PBMCs is not included in the kit price. Pricing shown is price per mouse.

‡ Estimated age

Description: NCG/PBMC kit allows for the humanization of NCG mice using select human PBMCs. The kit comes with mice and PBMCs and allows for flexibility when planning a study and injecting cells.

Benefits

Convenient

Peripheral blood mononuclear cells (PBMCs) from multiple donors are pretested for engraftment and study performance in the NCG mouse model.

Diverse Donor Cell Choice

Ready-to-use PBMCs from a diverse pool of reliable human donors enable consistent research, study-to-study, across multiple human subjects.

In Vitro to In Vivo Translation

Availability of cells and animals enables clients to translate studies from *in vitro* assays to an *in vivo* human T cell model with the same donor PBMCs.

Time and Cost Efficient

Pre-screened PBMCs from multiple donors eliminate the time and labor of donor qualification, accelerating results and reducing engraftment variability.



HuPBMC-NCG Mice* †

[Strain Page](#)

Commercial Pricing

Age in Weeks‡	Male	Female
	Price	Price
3-4 (21-34 days)	580.42	624.48
5 (35-41 days)	584.72	628.66
6 (42-48 days)	588.96	632.91
7 (49-55 days)	593.21	637.22
8 (56-62 days)	597.40	641.46
9 (63-69 days)	601.70	645.71
10 (70-76 days)	605.89	650.02
11-plus	Upon Request	

Non-Profit/Academic Pricing

Age in Weeks‡	Male	Female
	Price	Price
3-7 (21-55 days)	447.92	476.41
8 (56-62 days)	454.06	482.19
9 (63-69 days)	460.19	484.73
10 (70-76 days)	466.33	491.40
11-plus	Upon Request	

* A minimum of five mice per order is required, then in increasing increments of five animals.

† Price includes the cost of the NCG mouse and PBMC injections, as well as the cost associated with the procedure.

‡ Estimated age

Description: The humanized peripheral blood mononuclear cells (PBMCs) model consists of isolated human PBMCs injected into NCG mice. Animals are shipped 3-5 days post injection.

Benefits

Study-ready

Ready-to-use PBMCs are pre-injected and tested for effective engraftment in the NCG mouse model.

Trusted Source

The engrafted NCG mouse is a result of a partnership between industry leaders with more than 100 years of combined experience in providing high-quality animal models and human biologics to the research industry.

Quality

PBMC inventory has been screened for engraftment rate, body weight loss, and study term. Cell numbers have been optimized for use in the NCG mouse model.

Efficient

Pre-screened PBMCs save time, labor, and costs associated with donor qualification. There are no license requirements.



HuCD34-NGC Mice*

Strain Code: 695

NOD-Prkdc^{em26Cd52}Il2rgem^{26Cd22}/NjuCrl

[Strain Page](#)

Commercial Pricing

Female
Price
1268.27

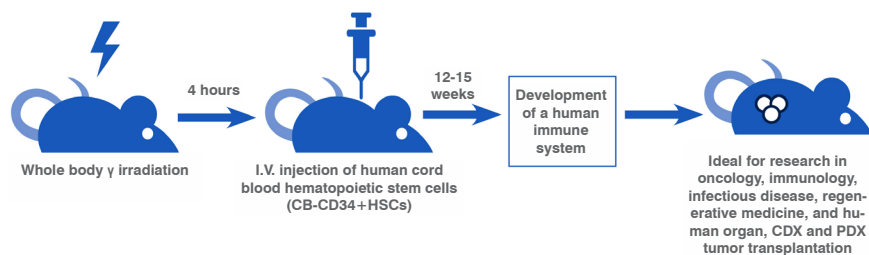
Non-Profit/Academic Pricing

Female
Price
1032.31

* HuCD34-NGC male mice are available by custom request only.

Charles River is offering the study-ready HuCD34-NGC mouse model with a human-like immune system.

Description: NOD-Prkdc^{em26Cd52}Il2rgem^{26Cd22}/NjuCrl are humanized by adoptive transfer of human CD34+ stem cells from a qualified source following myeloablation. Animals are subsequently housed for 12-14 weeks according to our immunodeficient animal housing protocols allowing for stable engraftment of the human CD34+ stem cells. Humanization is confirmed using flow cytometry and animals are available for purchase.





Athymic Nude Mice**

Strain Code: 490 (Homozygous)
Nomenclature: Crl:NU(NCr)-Foxn1^{nu}

[Strain Page](#)



Athymic Nude Mice §**

Strain Code: 491 (Heterozygous)
Nomenclature: Crl:NU(NCr)-Foxn1^{nu}

[Strain Page](#)



SCID Hairless Outbred Mice**

Specify SHO®
Strain Code: 474
Nomenclature: Crl:SHO-Prkdc^{scid} Hr^{hr}

[Strain Page](#)



NOD SCID Mice§§

Strain Code: 394
Nomenclature: NOD.CB17-Prkdc^{scid}/NCrCrI

[Strain Page](#)

Age in Weeks*	Male	Female	Male	Female	Male	Female	Male	Female
	Price	Price	Price	Price	Price	Price	Price	Price
3-5 (21-41 days)	103.58	120.38	103.58	120.38	144.58	168.20	169.44	179.64
6-7 (42-55 days)	114.87	133.55	114.87	133.55	160.28	186.42	183.25	198.20
8 (56-62 days)	130.51	151.20	130.51	151.20	182.17	207.26	Upon Request	
9 -plus	Upon Request				Upon Request			

* Estimated age

** Outbred, isolator-maintained

§ Heterozygous (haired) animals are not immunodeficient. Call 1.800.522.7287 for pricing and availability.

§§ Congenic, isolator-maintained.



CD-1® Nude Mice**

Specify CD-1® Nude

Strain Code: 086 (Homozygous)

Nomenclature: Crl:CD1-Foxn1^{nu}

[Strain Page](#)

Strain Code: 087 (Heterozygous)§

Nomenclature: Crl:CD1-Foxn1^{nu}

[Strain Page](#)

NU/NU Nude Mice**

Strain Code: 088 (Homozygous)

Nomenclature: Crl:NU-Foxn1^{nu}

[Strain Page](#)

Strain Code: 089 (Heterozygous)§

Nomenclature: Crl:NU-Foxn1^{nu}

[Strain Page](#)

Age in Weeks*	Male	Female	Male	Female	Male	Female	Male	Female
	Price	Price	Price	Price	Price	Price	Price	Price
3-5 (21-41 days)	109.61	127.39	109.61	127.39	109.61	127.39	109.61	127.39
6-7 (42-55 days)	121.56	141.33	121.56	141.33	121.56	141.33	121.56	141.33
8 (56-62 days)	136.80	160.01	136.80	160.01	136.80	158.38	136.80	158.38
9 -plus	Upon request							

* Estimated age

** Outbred, isolator-maintained

§ Heterozygous (haired) animals are not immunodeficient. Call 1.800.522.7287 for pricing and availability.



Fox Chase SCID® Mice^{§§}

Specify CB17 SCID

Strain Code: 236

Nomenclature: CB17/Icr-Prkdc^{scid}/IcrIcoCrI

[Strain Page](#)



Fox Chase SCID® Beige Mice^{§§}

Strain Code: 250

Nomenclature: CB17.Cg-Prkdc^{scid} Lyst^{tg-J}/CrI

[Strain Page](#)



NCI SCID/NCr Mice^{§§}

Strain Code: 561

Nomenclature: CB17/Icr-Prkdc^{scid}/IcrCr

[Strain Page](#)

Age in Weeks*	Male	Female	Male	Female	Male	Female
	Price	Price	Price	Price	Price	Price
3 (21-27 days)	117.98	117.98	127.39	128.65	173.50	173.50
4 (28-34 days)	126.18	126.18	134.84	136.18	177.44	177.44
5 (35-41 days)	134.96	134.96	143.64	143.64	181.14	181.14
6 (42-48 days)	142.10	142.10	151.65	151.65	184.93	184.93
7 (49-55 days)	150.24	150.24	159.11	159.11	188.79	188.79
8 (56-62 days)	Upon Request				192.51	192.51
9-plus				Upon Request		

* Estimated age

§§ Congenic, isolator-maintained



BALB/c Nude Mice[†]

Specify BALB/c Nude

Strain Code: 194 (Homozygous)

Nomenclature: CAnN.Cg-Foxn1^{nu}/CrI

[Strain Page](#)



NIH-III Nude Mice^{**}

Strain Code: 201 (Homozygous)

Nomenclature: CrI:NIH-LySt^{bg-J}Foxn1^{nu} Btk^{xid}

[Strain Page](#)

	Male/Female Price	Male/Female Price
Homozygous, either sex nu/nu, 4-5 weeks (28-41 days)*	262.08	155.22
Heterozygous, either sex nu/+, 4-5 weeks (28-41 days)*	93.75	79.98
6 weeks-plus*	Upon Request	

* Estimated age

** Outbred, isolator-maintained

† Inbred, isolator-maintained

**RNU Nude Rats****

Specify RNU

Strain Code: 316 (Homozygous)Nomenclature: Crl:NIH-Foxn1^{nu}[Strain Page](#)**SRG Rats® ††**

Specify RNU

Strain Code: 118 (Heterozygous)§Nomenclature: Crl:NIH-Foxn1^{nu}[Strain Page](#)**Strain Code: 707**Nomenclature: Sprague Dawley-
Rag2^{em2hera} Il2rg^{em1hera}/HblCrl[Strain Page](#)

Age in Weeks*	Commercial Price		Academic Price	
	Male	Female	Male	Female
3 (21-27 days)	241.57	246.05	241.57	246.05
4 (28-34 days)	302.35	302.35	302.35	302.35
5 (35-41 days)	363.21	363.21	363.21	363.21
6 (42-48 days)	419.39	419.39	419.39	419.39
7 (49-55 days)	480.64	480.64	480.64	480.64
8 (56-62 days)	535.96	535.96	535.96	535.96
9 (63-69 days)	593.06	598.45	593.06	598.45
10 (70-76 days)	606.68	612.35	606.68	612.35
11 (77-83 days)	Upon Request			
12 (84-90 days)	-	-	-	-
13 (91-97 days)	-	-	-	-
14 (98-104 days)	-	-	-	-

* Estimated age

** Outbred, isolator-maintained

§ Heterozygous (haired) animals are not immunodeficient. Call 1.800.522.7287 for pricing and availability.

†† SRG Rat® is a registered trademark of Hera Biolabs. SRG Rat® Registered trademark is used with permission from Hera Biolabs. Commercial use of the SRG may be further subject to [Hera Biolabs' Conditions of Use](#).



Human Immune Cells and Stem Cells from Charles River Cell Solutions

[Learn More](#)

Did you know Charles River Cell Solutions provides human and mouse immune cellular products? Human cells are derived from apheresis collections from healthy human donors for human cell studies in our immunodeficient mouse and rat models. Available immune cell products include: leukopaks (normal and mobilized), PBMCs, isolated T cells, antigen-specific T cells, NK cells, macrophages, and monocytes. We also provide human stem cell products derived from mobilized leukopaks, bone marrow, or cord blood sources. Purification, isolation, and cryopreservation of isolated cells are performed on-site immediately after collection.

PBMCs and CD34+ Stem Cells for Humanization of Immunodeficient Mice

Human peripheral blood mononuclear cells (PBMCs) from a diverse and highly characterized pool of recallable donors are available for purchase and can be used for development of humanized mouse models.

Human PBMCs	Product Code	Price
Mononuclear Cells (PBMCs), 10M, Cryo	PB009C-1	\$140
Mononuclear Cells (PBMCs), 25M, Cryo	PB009C-2	\$215
Mononuclear Cells (PBMCs), 50M, Cryo	PB009C-50	\$330
Mononuclear Cells (PBMCs), 100M, Cryo	PB009C-3	\$465

[Learn More](#)

Human CD34+ hematopoietic stem cells isolated from a diverse and highly characterized pool of recallable donors are available for purchase and can be used for development of humanized mouse models. CD34+ cells are available from mobilized peripheral blood, bone marrow, or cord blood.

[Learn More](#)

Mouse Immune Cells and Stem Cells

Immune and stem cell products from BALB/c and C57BL/6 mouse strains including bone marrow cells, dendritic cells, macrophages, and spleen cells are available for purchase.

Mouse Cells	Product Code	Price
BALB/c Bone Marrow Cells 5-10M	MOUSE-1112	\$225.00
BALB/c Dendritic Cells 5-10M	MOUSE-1128	\$405.00
BALB/c Macrophages Cells 5-10M	MOUSE-1118	\$365.00
BALB/c Spleen Cells 5-10M	MOUSE-1113	\$210.00
C57BL/6 Bone Marrow Cells 5-10M	MOUSE-1110	\$225.00
C57BL/6 Dendritic Cells 5-10M	MOUSE-1129	\$405.00
C57BL/6 Macrophages Cells 5-10M	MOUSE-1117	\$365.00
C57BL/6 Spleen Cells 5-10M	MOUSE-1111	\$210.00

[Learn More](#)

Rabbit, Guinea Pig, Gerbil, and Hamster Models

Because most diseases cause a wide range of complications, their study is complex and often requires research programs to take a multidisciplinary approach. Therefore, aside from mouse and rat models, we also provide other species of research models in order to support your program requirements.





LVG Golden Syrian Hamsters

Strain Code: 049

Nomenclature: Crl:LVG(SYR)

[Strain Page](#)



Mongolian Gerbils

Strain Code: 243

Nomenclature: Crl:MON(Tum)

[Strain Page](#)



Hartley Guinea Pigs

Strain Code: 051

Nomenclature: Crl:HA

[Strain Page](#)

Weight in Grams	Male	Female	Weight in Grams	Male	Female	Weight in Grams	Specified Sex	Either Sex
	Price	Price		Price	Price		Price	Price
Up to 50	61.51	61.51	Up to 40	152.58	145.26	Up to 200	187.72	135.59
51-60	67.96	67.96	41-50	157.05	152.58	201-250	209.52	147.86
61-70	73.96	73.96	51-60	169.03	157.05	251-300	221.92	159.65
71-80	83.44	83.44	61-70	174.12	163.28	301-350	234.83	169.79
81-90	93.79	93.79	71-80	180.08	174.12	351-400	247.44	179.72
91-100	104.97	104.97	81-90	190.03		401-450	260.48	187.72
101-110	113.14	113.14	91-plus	Upon Request		451-500	272.41	197.16
111-120	117.89	117.89	Retired breeders	152.58	152.58	501-550	293.79	215.24
121-plus	Upon Request		Proven breeder pair	-	433.83	551-plus	Upon Request	
Retired breeders	95.56	95.56	Untimed pregnant	-	455.50	Retired Breeders	62.90	62.90
Timed pregnant	-	219.24	Lactating mother with pups	-	477.70			



New Zealand White Rabbits*

Strain Code: 052

Nomenclature: Cri:KBL(NZW)

[Strain Page](#)

Weight in Kgs [‡]	Specified Sex	Either Sex
	Price	Price
0.8-1.2	78.55	-
1.3-1.6	226.42	193.35
1.7-2.0	261.82	226.42
2.1-2.4	297.17	261.82
2.5-2.8	341.10	298.64
2.9-3.2	420.30	382.08
3.3-3.6	479.12	434.73

Pregnant animal pricing and additional services available upon request. Please see our pregnant animal guarantee policy.

** See our research models overview section for rabbit cancellation policy.*

‡ Males only

Coming Soon: Rabbit Surgical Procedures

Procedure	Code	Price
Castration	CASTRATE	693.00
Ovariectomy	OVARIEX	906.23
Vasectomy	VASEX	693.00
Jugular Vein Catheter	JVC-INST-VAB	1,119.46
Double Jugvein Catheter	DJVC-INSTVAB	1,332.69
Femoral Artery Catheter	FAC-INST-VAB	1,119.46
Femoral Vein Catheter	FVC-INST-VAB	1,119.46
Carotid Artery Catheter	CAC-INST-VAB	1,119.46

NCI Grantee Models

For more than 25 years, the National Cancer Institute (NCI) partnered with Charles River to produce their research animal models. In 2014, the NCI ceased to maintain an animal vivarium, which ended our production agreement. Charles River subsequently assumed management and operational responsibilities for the existing NCI models and continues to breed and maintain those colonies today.





NCI C57BL/6NCr Mice

Strain Code: 556

[Learn More](#)



NCI C57BL/6-cBrd/cBrd/Cr
(C57BL/6 albino)

Strain Code: 562

[Learn More](#)



NCI BALB/cAnNCr Mice

Strain Code: 555

[Learn More](#)



NCI FVB/NCr Mice

Strain Code: 559

[Learn More](#)

Age in Weeks*	Male	Female	Male	Female	Male	Female	Male	Female
	Price	Price	Price	Price	Price	Price	Price	Price
3 (21-27 days)	32.14	32.14	40.11	40.11	30.27	30.27	33.26	33.26
4 (28-34 days)	32.14	32.14	40.11	40.11	30.27	30.27	33.26	33.26
5 (35-41 days)	32.14	32.14	40.11	40.11	30.27	30.27	33.26	33.26
6 (42-48 days)	32.14	32.14	40.11	40.11	30.27	30.27	33.26	33.26
7 (49-55 days)	32.14	32.14	40.11	40.11	30.27	30.27	33.26	33.26
8 (56-62 days)	32.14	32.14	44.53	44.53	30.27	30.27	36.24	36.24
9 (63-69 days)	36.32	32.14	48.69	48.69	30.27	30.27	39.16	39.16
10 (70-76 days)	39.94	36.32	52.99	52.99	32.98	32.98	41.92	41.92
Retired breeders	23.59	23.59	30.06	30.06	22.96	22.96	25.26	25.26
Lactating mouse with litter	-	192.34	-	234.77	-	213.76	-	202.83
Untimed pregnant [§]	-	160.33	-	187.69	-	160.33	-	176.12

* Estimated age

§ For untimed pregnant, please see our pregnant animal guarantee policy.

Outbred Models

Hybrid and Congenic Models



**NCI Cr:NIH(S) Mice
(NIH Swiss)**
Strain Code: 550

[Learn More](#)



**NCI Cr:SW Mice
(Swiss Webster)**
Strain Code: 551

[Learn More](#)



NCI B6D2F1/Cr Mice
Strain Code: 565

[Learn More](#)



NCI B6-Ly5.1/Cr Mice[†]
Strain Code: 564

[Learn More](#)

Age in Weeks*	Male	Female	Male	Female	Male	Female	Male	Female
	Price	Price	Price	Price	Price	Price	Price	Price
3 (21-27 days)	8.95	8.95	8.95	8.95	35.37	35.37	35.37	35.37
4 (28-34 days)	8.95	8.95	8.95	8.95	35.37	35.37	35.37	35.37
5 (35-41 days)	8.95	8.95	8.95	8.95	35.37	35.37	35.37	35.37
6 (42-48 days)	8.95	8.95	8.95	8.95	35.37	35.37	35.37	35.37
7 (49-55 days)	8.95	8.95	8.95	8.95	35.37	35.37	35.37	35.37
8 (56-62 days)	8.95	8.95	8.95	8.95	38.06	38.06	41.92	41.92
9 (63-69 days)	11.57	11.57	14.34	14.34	41.05	41.05	48.54	48.54
10 (70-76 days)	13.47	11.57	15.50	15.50	41.05	41.05	53.35	53.35
Retired breeders	8.66	8.66	8.66	8.66	-	-	33.26	33.26
Lactating mouse with litter	-	96.29	-	96.29	-	187.69	-	-
Untimed pregnant [§]	-	43.08	-	43.08	-	-	-	-

* Estimated age

§ For untimed pregnant, please see our pregnant animal guarantee policy.

† Congenic



NCI Athymic NCr-nu/nu Mice

Strain Code: 553

[Learn More](#)



**NCI Athymic NCr-nu/
+ Mice[§]**

Strain Code: 554

[Learn More](#)



**NCI NOD.SCID/
NCr Mice**

Strain Code: 560

[Learn More](#)



NCI SCID/NCr Mice

Strain Code: 561

[Learn More](#)

Age in Weeks*	NCI Athymic NCr-nu/nu Mice		NCI Athymic NCr-nu/+ Mice [§]		NCI NOD.SCID/NCr Mice		NCI SCID/NCr Mice	
	Male Price	Female Price	Male Price	Female Price	Male Price	Female Price	Male Price	Female Price
3 (21-27 days)	83.10	83.10	48.45	48.45	142.56	142.56	105.24	105.24
4 (28-34 days)	83.10	83.10	48.45	48.45	142.56	142.56	105.24	105.24
5 (35-41 days)	83.10	83.10	48.45	48.45	142.56	142.56	105.24	105.24
6 (42-48 days)	83.10	83.10	48.45	48.45	142.56	142.56	105.24	105.24
7 (49-55 days)	83.10	83.10	48.45	48.45	142.56	142.56	105.24	105.24
8 (56-62 days)	85.08	85.08	51.84	51.84	145.99	145.99	109.17	109.17
9 (63-69 days)	88.79	88.79	55.32	55.32	149.63	149.63	113.24	113.24
10 (70-76 days)	92.29	92.29	58.78	58.78	153.20	153.20	117.10	117.10
Retired breeders	81.73	-	-	32.66	120.59	120.59	98.68	98.68
Lactating mouse with litter	-	-	-	319.94	-	284.93	-	284.93
Untimed pregnant**	-	-	-	298.68	-	263.10	-	263.10

* Estimated age

** For untimed pregnant, please see our pregnant animal guarantee policy.

§ Heterozygous (haired) animals are not immunodeficient. Call 1.800.522.7287 for pricing and availability.



NCI Immunodeficient Models

Characteristic	NCI Athymic NCr-nu/nu	NCI NOD.SCID/NCr	NCI SCID/NCr
Hair Coat	No	Yes	Yes
T Cell Deficient	Yes	Yes	Yes
B Cell Deficient	No	Yes	Yes
NK Cell Deficient	No	Impaired	No
Species	Mouse	Mouse	Mouse
Genetics	Outbred	Congenic	Congenic

Equivalent/Alternative Models

The Charles River models listed below can be used as an equivalent/alternative option in the event that the NCI models are not available at the specifications you require.

NCI Model	Charles River Equivalent/Alternative
Outbred Mice	
NCI Cr:NIH(S) (NIH Swiss)	CD-1® IGS
NCI Cr:SW (Swiss Webster)	CFW® (Swiss Webster)
Inbred Mice	
NCI BALB/cAnNCr	BALB/c
NCI C57BL/6-cBrd/cBrd/Cr (C57BL/6 albino)	B6 Albino
NCI C57BL/6NCr	C57BL/6
NCI FVB/NCr	FVB
Hybrid Mice	
NCI B6D2F1/Cr	B6D2F1
Immunodeficient Models	
NCI Athymic NCr-nu/nu	Athymic Nude Mice - Homozygous
NCI Athymic NCr-nu/+	Athymic Nude Mice - Heterozygous
NCI NOD.SCID/NCr	NOD SCID Mice
NCI SCID/NCr	Fox Chase SCID® Mice (C.B-17 SCID)



Cryopreserved

All strains listed below are currently maintained as cryopreserved models. **Please allow a minimum of 12-15 weeks for delivery.** A dedicated supply can be established for large orders, and breeding pairs may be available for select models. Contact our Genetically Engineered Models and Services Department at GEMSServices@crl.com for pricing and availability.

Model	Common Name	Nomenclature	Coat Color	Therapeutic Area
Disease/Translational Rat	BDIX	BDIX/CrCrl	Agouti	Oncology
Disease/Translational Rat	PCK	PCK/CrljCrl- <i>Pkhd1pck/Crl</i>	White (albino)	Renal
Disease/Translational Rat	SS-13BN	SS-Chr 13BN/McwiCrl	White (albino)	Control for Dahl/SS
Outbred Mouse	Black Swiss	Crl:NIHBL(S)	Black	
Hybrid Mouse	THE POUND MOUSE®	C57BL/6NCrl- <i>Lep^{rdb-lb}/Crl</i>	Black	Diabetes
Immunodeficient Mouse	hACE2-NCG Mice	NOD/ShiLtJGpt-Prkdc ^{em26Cd52} IL2rg ^{em26Cd22} Ace2 ^{em1Cin(hACE2)} /GptCRL	White (albino)	SARS-CoV-2 and Infectious Disease
Immunodeficient Mouse	SCID Hairless Congenic Mice (SHC™)	CB17.Cg- <i>Prkdc^{scid}Hr^h/lcrCrl</i>	Hairless, albino background	Oncology
NCI Outbred Mouse	NCI Cr:ORL SENCAR Mice			
NCI Congenic Mouse	NCI B10.A/Cr Mice			
NCI Inbred Mouse	NCI DBA/2NCr Mice			
NCI Inbred Mouse	NCI F344/NCr Rats			



Rodent Surgery, Biospecimen, Other Services

Preconditioning services can help alleviate the space, time, and labor costs involved with refining a model to meet your unique research requirements. Whether you are looking for animals fed a special diet, altered through surgery, or reared to a certain age, Charles River has the state-of-the-art animal facilities, professional animal care, and robust model selection to deliver study-ready animals right to your door.

[Get Started](#)



Preconditioned Models

Charles River can provide preconditioned models that meet your exact study needs, saving you space, time, and labor costs. Our husbandry procedures utilize strict biosecurity guidelines developed under the direction of the professional staff at our AAALAC-accredited facilities. We offer services that include:

- [Pre-ID™ species and services](#)
- [Pre-screening services](#)
- [Pre-dosing/pre-injection services](#)
- [Custom diets](#)
- [Aging services](#)
- [Rodent surgery](#)

Any of these services can be used, alone or in combination, based on your needs. For further information, please contact Customer Service at ResearchModels@crl.com, or [request a quote online](#).

Rodent Surgery

Many of our surgical procedures can be combined into one order. For more information regarding combination procedures or to place an order, please contact Customer Service at 1.800.522.7287. You can also [request a quote](#) for any of our surgical procedures.

Animal Surgery Products & Services

- [Vascular catheterizations](#)
- [Non-vascular catheterizations](#)
- [Soft tissue procedures](#)
- [Neurological procedures](#)
- [Device implants](#)
- [Accessories for catheterized rodents](#)

Rodent Biospecimens

[Learn More](#)

Charles River has partnered with Transnetyx Tissue to provide fresh and frozen biospecimen products direct from our Research Model colonies. With innovative micro-surgical capabilities and cutting-edge extraction and preservation technologies at Transnetyx Tissue combined with dependable Charles River model backgrounds, this collaboration delivers a best-in-class biospecimen portfolio and will enable you to reach discovery milestones faster with robust reproducible results.

Available research animal model tissues and blood products include:

- Mouse (Strains available: CD-1, C57BL/6, BALB/C)
 - Brain (Fresh or Frozen)
 - Liver (Fresh or Frozen)
 - Plasma (1mL Frozen, K2ETA)
 - Serum (1mL Frozen)
 - Whole Blood (1mL Frozen, K2ETA or SODHEP)
- Rat (Strain available: CD)
 - Brain (Fresh or Frozen)
 - Plasma (10mL Frozen, K2ETA)
 - Serum (10mL Frozen)
 - Whole Blood (10mL Frozen, K2ETA or SODHEP)



Research Animal Diagnostic Services

Charles River Research Animal Diagnostic Services is the only comprehensive partner that offers solutions from prevention to resolution. Through innovations like the HemaTIP™ Microsampler, PathogenBinder™, and Exhaust Air Dust (EAD®) testing with our PCR Rodent Infectious Agent (PRIA®) panels, we can efficiently manage your animal health surveillance program.

Our complementary services include consultations with Charles River professional scientific staff as well as access to **Laboratory Testing Management®** (LTM™). LTM™ is an online, free, and secure system to store and access testing records and results. We offer complimentary sample collection, shipping supplies, and retesting.

Alternative (Sentinel-Free) Programs

Charles River offers the new PathogenBinder™ collection method and Exhaust Air Dust (EAD®) sample testing as alternative approaches to screening the health of your animal colonies. The increased sensitivity and specificity of our PCR testing in combination with these sampling method enables us to detect viruses, bacteria, and parasites in any housing scenario utilizing soiled-bedding sampling, screening ventilated caging systems or swabbing other environmental surfaces.

This approach not only reduces or eliminates the need for sentinels, but it also increases the probability of detecting those infectious agents that are not readily detected by sentinels exposed to soiled bedding. Any of our standard PRIA® panels can be used or customized to more specifically meet your needs.

Rack Type	Sampling Level	Sample Type Options
Individually ventilated cages (IVC)	Rack-level	PathogenBinder™ EAD® swab* Pre-filter media Rack collection device† Direct‡
Individually ventilated cages (IVC) with cage-level filtration	Cage-level	PathogenBinder™ Cage filter media Direct‡
Static-top filter cages	Rack-level	PathogenBinder™ Direct‡
Conventional open-top cages	Rack-level	PathogenBinder™ Environmental swab§ Direct‡

* e.g., plenum swab, pre-filter swab, and/or exhaust hose swab

† Caging manufacturer sample collection device

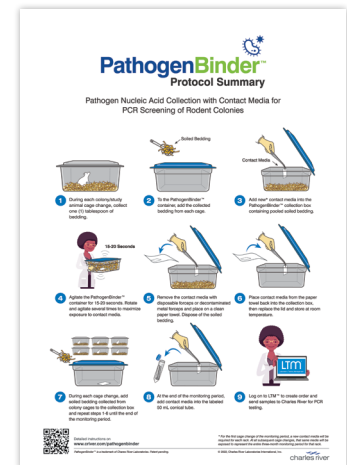
‡ e.g., fecal pellets, body swab, oral swab

§ Swab various surfaces that are in contact with resident animals

PathogenBinder™ Kit

[Learn More](#)

Available exclusively from Charles River, PathogenBinder™ is a novel soiled-bedding sampling method for detecting rodent pathogens without the need for a sentinel animal.



Key benefits of the PathogenBinder™ Kit include:

- Free collection kits
- Usable with any cage type
- Easy to use
- Off-rack placement
- Qualified by Charles River scientists

PRIA PCR Panels

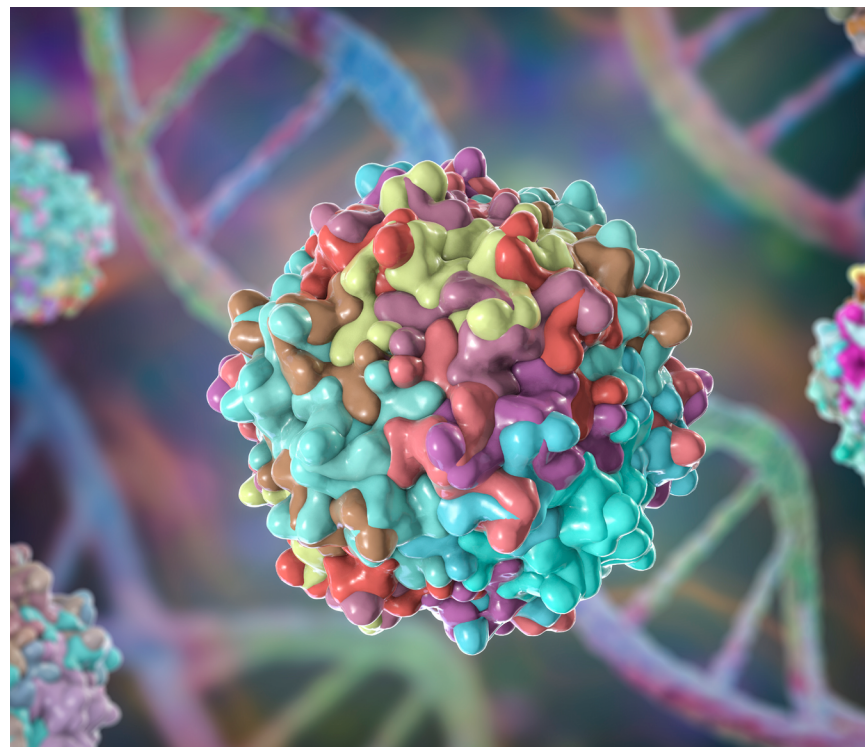
[Learn More](#)

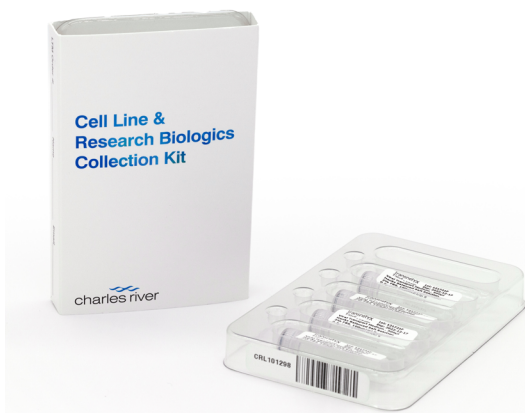
Our PRIA[®] PCR panels provide you with the ability to monitor for vast numbers of agents from a single sample source. Services are available for screening colony animals directly, for screening indirectly via environmental sampling, for exhaust air dust (EAD[™]) testing, or PathogenBinder[™], as well as screening cell lines and research biologics.

Custom panels available upon request. Agent lists for other panels, such as Prevalent, Tracking, and Surveillance Plus, can be found in LTM[™].

PRIA[®] PCR Panels - Direct Animal, EAD[®], PathogenBinder[™]

- Mouse
- Rat
- Guinea Pig
- Rabbit
- Gerbil
- Hamster





Cell Line & Research Biologics Sample Collection Kit

[Learn More](#)

The new Cell Line & Research Biologics Sample Collection Kit is designed to make submitting your samples as quick and easy as possible.

Features of the new kit, which may be requested using our [Shipping Supply Request form](#), include:

- Tubes with buffer and CLEAR (cell line examination and report) instructions in a ready-to-use kit
- A buffer that stabilizes samples during shipment. View the qualification summary from studies completed by our scientists.
- Shipment at ambient temperature; no dry ice needed

PCR Panels to Screen Cell Lines and Research Biologics for Rodent Infections Agents

[Learn More](#)

Our CLEAR (cell line examination and report) PCR Panels are performed non-GXP; this service is available for research purposes only. Once you are ready to submit samples, [visit LTM™](#) to create your order online.

PCR Panels to Screen Cell Lines and Research Biologics for Human Infectious Agents

[Learn More](#)

Our CLEAR (cell line examination and report) PCR Panels are performed non-GXP; this service is available for research purposes only. Once you are ready to submit samples, [visit LTM™](#) to create your order online.

Contamination CLEAR

[Learn More](#)

Our CLEAR (cell line examination and report) PCR Panels are performed non-GXP; this service is available for research purposes only. Once you are ready to submit samples, [visit LTM™](#) to create your order online.



Traditional Whole-Animal Rodent and Rabbit Sentinel Program

Whole animals can be submitted for a health monitoring (HM) protocol – samples will be collected in our necropsy laboratory and screened for the presence of infectious agents. Also, services offered as part of an HM protocol are available individually – samples can be collected at your facility and submitted directly to our laboratory for testing. Customized and FELASA-compliant testing is available upon request.

[Learn More](#)

Protocol	Species	Serology*	PCR†	Microbiology‡	Parasitology	Pathology
HM Basic	Mouse, rat, hamster, guinea pig, rabbit, and gerbil	(None)	<i>Lawsonia</i> (hamster only)	Upper respiratory and gastrointestinal tracts	Endoparasite and ectoparasite exams	Gross necropsy with histology of lesions
HM Basic (Immunodeficient)	Mouse and rat	(None)	<i>C.bovis</i> , <i>Pneumocystis</i> , and <i>Mycoplasma pulmonis</i> (mouse only)			
HM Prevalent	Mouse and rat	Prevalent	(None)			
HM Standard	Mouse, rat, guinea pig, and rabbit	Tracking	(None)			
HM Assessment	Mouse, rat, hamster, guinea pig, rabbit, and gerbil	Assessment	<i>Lawsonia</i> (hamster only)			
HM Plus	Mouse and rat	Assessment Plus	(None)	Upper respiratory and gastrointestinal tracts		
HM Plus without Microbiology	Mouse and rat	Assessment Plus	(None)			
HM Quarterly FELASA	Mouse and rat	FELASA Quarterly	<i>Helicobacter</i>			
HM Annual FELASA	Mouse and rat	FELASA Annual	<i>Helicobacter</i>			
Build your own custom protocol	Mouse, rat, hamster, guinea pig, rabbit, and gerbil					

* For a full list of serology agents, please see serology profiles section.

† In addition to the included PCR tests, samples can be collected and screened for the agent(s) of your choice (e.g., *Helicobacter*) for an added fee.

‡ For more information on microbiology services, please see microbiology culture section.



Hybrid Rodent Health Surveillance Programs

[Learn More](#)

Hybrid programs allow for a combination of alternative environmentally-based samples to be submitted in combination with direct animal (antemortem) samples such as fecal pellets, body swabs, and oral swabs, as well as sentinel serology.

Rack Type	Sampling Level	Sample Type Options
Individually ventilated cages (IVC)	Mixed	Blood/serum Direct† EAD® swab* Rack or cage filter media Cage swab
Static-top filter cages	Mixed	Blood/serum Direct† Cage swab
Conventional open-top cages	Mixed	Blood/serum Direct† Environmental swab‡

* e.g., plenum swab, pre-filter swab, and/or exhaust hose swab

† e.g., fecal pellets, body swab, oral swab

‡ Swab various surfaces that are in contact with resident animals.

Health Surveillance for nonhuman primate (NHP)



Microbiology Culture

[Learn More](#)

This service can be used in conjunction with an [environmental monitoring](#) (e.g., feed, bedding, water) or animal health surveillance program, and diagnostic evaluation. Live animals, samples (e.g., swabs, transport media), and organisms for identification can be collected at your facility and submitted directly to our laboratory for testing. Matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) mass spectrometry analysis is used for efficient and accurate identification of pure single colonies from culture. See the list of agents to the right. Once you are ready to submit samples, [visit LTM™](#) to create your order online.

Parasitology

[Learn More](#)

Endo- and ectoparasites continue to be a significant concern for laboratory animal facilities. Charles River offers multiple screening methods for the detection of parasites in rodent, rabbit, and large animal colonies. Samples (e.g., feces, swabs, or tapes) collected at your facility can be submitted directly to our laboratory for testing. Once you are ready to submit samples, visit LTM™ to create your order online.

Diagnostic Necropsy and Histopathology Services

[Learn More](#)

Services range from routine diagnostic assessment to pathology support or custom protocol design with report.

Germ-Free Colony Health Screening

[Learn More](#)

Comprehensive Germ-Free Colony Health Screening

The single most important specification for germ-free mouse colonies is that they remain free of microbes. Charles River offers and recommends that both culture-dependent and culture-independent screening methods be used to assure that even fastidious bacteria that are difficult to isolate are detected. Fecal pellets collected per our recommended specifications can be submitted for all methods of germ-free monitoring described below.

For a more complete assessment, whole animals, antemortem samples, or environmental samples can also be submitted to our laboratory for standard health monitoring procedures. Our health monitoring experts are available to provide guidance on establishing a routine germ-free assessment program specific to your colony and research.

Anaerobic and Aerobic Culture

We use state-of-the-art anaerobic chambers, not canister methods, to provide the most sensitive isolation procedures for fastidious obligate anaerobic bacteria, which may take up to 14 days to grow. Fecal pellets submitted for culture are also screened for motile bacteria by wet mount analysis, a culture-independent method, upon arrival.

16S Ribosomal RNA PCR

This PCR screening, uses broadly reactive PCR primers to detect all bacterial phyla. This culture independent assay uses technology that prevents false-positive detection commonly caused by other PCR detection methods.

If you require a testing option that isn't listed or want to find the right one for your needs, reach out to our team at labservices@crl.com so we can assist you.

Serology

[Learn More](#)

Our primary serology testing method is the Multiplexed Fluorometric ImmunoAssay®, or MFIA®. Additionally, we utilize other methods such as the Indirect Fluorescent Antibody (IFA) test, Enzyme-Linked Immunosorbent Assay (ELISA), or Western Blot to confirm questionable or positive results, as well as to screen select rare agents. Blood or diluted serum samples collected at your facility can be submitted directly to our laboratory for testing. Once you are ready to submit samples, [visit LTM™](#) to create your order online.

For gene therapy studies in nonhuman primates (NHPs), adeno-associated viruses are used to shuttle the genes into cells. However, neutralizing antibodies (NAb) in their blood against these AAV carriers can unwittingly interfere with success of the clinical studies. RADS offers AAV NAb services for prescreening of NHPs using their serum prior to enrolling them in studies. Both screening and titer assays are offered for different AAV serotypes using serum only.

The [HemaTIP™ blood micro-sampler](#) simplifies the blood collection process by placing the media on the tip of an easy-to-hold stylus. The tip only needs to touch the blood, and its super-absorptive matrix media wicks the sample in 3-6 seconds.

Serology profiles:

- Mouse
- Rat
- Hamster
- Guinea Pig
- Rabbit
- Gerbil and Miscellaneous Rodent



Serology Reagents for Infectious Agent Testing of Laboratory Animals

[Learn More](#)

Serology reagents for infectious agent testing for use in your in-house laboratory are available. Our technical staff will help you set up your serology testing program, train your staff, and provide continuing support with troubleshooting and results interpretation.

Reagents are available for the following:

- Multiplexed Fluorometric ImmunoAssay® (MFIA®)
- Enzyme-Linked Immunosorbent Assay (ELISA)
- Indirect Fluorescent Antibody (IFA)



Simian (Nonhuman Primate)

NHP Health Surveillance Testing

[Learn More](#)

Custom panels and individual agent testing are available upon request. Services available for samples only; whole animals are not accepted.

Adeno-Associated Virus (AAV) Neutralizing Antibody Testing

[Learn More](#)

For gene therapy studies in nonhuman primates (NHPs), adeno-associated viruses (AAVs) are used to shuttle the genes into cells. However, neutralizing antibodies (NAb) in their blood against these AAV carriers can unwittingly interfere with success of clinical studies. We provide AAV NAb services for prescreening of NHPs using their serum prior to enrolling them in studies.

[View a list](#) of available serotypes and download their respective qualification reports.

Health Surveillance for Additional Species:

[Learn More](#)

- Zebrafish
- Xenopus
- Ferret



Genetically Engineered Models and Services

Charles River has taken pride in being a comprehensive provider of integrated services, including customized breeding programs, quarantine space, genetic testing, rederivation, IVF, and cryopreservation. We developed a custom-designed software solution called ICM™ (Internet Colony Management) for both project and vivarium management. Tablets, RFID, and barcodes are used to capture data and colony information in real time, instantly providing full visibility of activities with easy online access. **Dedicated project managers will guide your project from start to finish**, all in consultation with you and

your team. With the help of PhD-level genetic experts, our experienced project managers are able to design and execute complex breeding projects while keeping your budget and timeline in mind, providing regular updates and feedback along the way. To learn more or view a video of the system in action, visit www.criver.com/icm.

[Learn More](#)



Breeding Services

[Learn More](#)

Charles River provides off-site space for holding, breeding, and developing genetically engineered mouse and rat colonies. All colonies are assigned a dedicated project manager and clients are granted access to Charles River's innovative Internet Colony Management (ICM™) system. Whether you want to simply maintain a line, produce regular animal shipments for your studies, or backcross your strain to a different genetic background, each breeding colony is scalable to your specific research needs.

Quarantine Services

[Learn More](#)

Charles River provides dedicated space reserved for assessing the health profile of animals coming from outside institutions. Our PRIA®-based quarantine program offers fast and comprehensive test results in 2-3 weeks. We can also develop custom protocols to meet your animal facility requirements.

Rederivation Services

[Learn More](#)

Rederivation can eliminate unwanted parasites, viruses, bacteria, and other opportunistic agents from research colonies. IVF Rapid Expansion can generate large quantities of animals in a single generation. We offer a number of options based on the genetics of your strain and/or the quantity of animals available.

Cryopreservation Services

[Learn More](#)

Cryopreservation provides a permanent solution to archiving genetically engineered lines no longer being actively used, as well as safeguarding valuable lines in the event of a problem with the health or genetics of the line or a major disaster.

Cryorecovery Services

[Learn More](#)

While cryopreserving your valuable genetically engineered animals is an important part of protecting your research against unforeseen events, having the ability to recover live animals from frozen stock quickly and efficiently is equally critical to safeguarding your lines.



Microinjection Services

[Learn More](#)

Charles River can help you bridge the gap from *in vitro* to *in vivo* models. Our dedicated team will prepare and inject your ES cells or genetic material (DNA, CRISPR, ES recombinant clones). Choose the appropriate package described below and provide us your biological material to receive your VAF/Elite® mice.

Assisted Reproduction Services

[Learn More](#)

Charles River continually invests in new innovations and sophisticated techniques within our embryology program. A comprehensive Mouse Rescue Package is offered to help aid in the rescue options for strains that experience unexpected breeding difficulties. In addition, Charles River offers laser-assisted *in vitro* fertilization to aid in embryo production using IVF technology for non-optimal sperm samples.

Charles River's high-throughput embryology laboratory offers non-regulated testing using both mouse embryo assay (MEA) and human sperm assay (HSA) to screen media, reagents, and disposable laboratory supplies. These bioassays are used for assessing functionality and toxicity of the client's media and materials.

Transgenic Model Creation

[Learn More](#)

Charles River has joined forces with leading genomic engineering providers to deliver a complete and integrated solution for mouse and rat model creation. Our combined expertise provides an optimum environment for creating, characterizing, preserving, and breeding your transgenic lines.



Genetic Testing Services

From assay design to results interpretation, we provide a full portfolio of customized genetic testing services to meet your needs in genotyping, genetic background characterization, colony management, and genetic quality control. Coupled with our online Laboratory Testing Management® (LTM™) system, we provide unparalleled turnaround times, data accuracy, and seamless communication with our lab.

Our full-service, high-throughput genotyping laboratory is committed to providing accurate, timely, and cost-effective answers to researchers who rely on genetically modified animal models. We offer a comprehensive set of molecular-based genetic tests for characterization of various mutations, such as allele-specific assays targeting specific mutations critical for genetic quality control (GQC), compound mutations, and complex breeding schemes involving Cre/Flpe mediated recombination events. Our real-time qPCR assays are capable of detecting three

versus four copies of a transgene, uniquely suitable for characterization of transgenic lines with potential segregation and instability issues that may result in various transgene expressions. Our standard PCR platform is very sensitive in detecting small INDELS leading to heteroduplex formation, particularly useful for initial screening of cell lines or animal models generated using CRISPR/Cas9 technology. Finally, our expert geneticists provide scientific guidance and consultation in colony management and complex breeding strategies.



Genotyping

[Learn More](#)

Our mouse genotyping services are fully customized to suit your project. We have the capability to run multiple types of allele-specific assays, including PCR, qPCR, and single SNP assays. All assays are custom designed to optimize specificity. Once the assay has been validated, a final report is provided to the customer

Assay Development and Genetic Quality Control (GQC)

[Learn More](#)

Assay development and genetic quality control (GQC) work in conjunction to help identify contamination early and keep your lines in check. Assays are custom designed based on the information you provide to ensure specificity of allele detection and accurate genotype determinations. Each protocol is reviewed by our expert team of scientists. Our scientists will work with you to help resolve any issues and deploy new breeding strategies to overcome any challenges that may arise.

Background Strain Characterization

[Learn More](#)

Service	Description
Mouse MAX-BAX® speed congenics*	Marker-assisted accelerated backcrossing utilizing 384 SNP panel
Background strain characterization (BSC)	Mouse 384 SNP or rat 240 SNP complete background analysis panels
C57BL/6 mouse substrain panel†	128 SNP
SNP QC (mouse and rat panels available)	32-marker assay for contamination detection

* See below 'MAX-BAX® Congenic Strain Production Strategies' for additional information.

† The 128 SNP panel is used to differentiate between the mouse C57 substrains. Animals should be confirmed C57 congenic (>98% C57 by 384 SNP) prior to testing; the BSC Mouse 384 SNP complete background analysis panel is available for this confirmation step.

Strain-Specific Genetic Variation

Service	Including, but not limited to
Disease model testing*	Foxn1 tm , NOD, Prkdc ^{scid} , Ly5.1/5.2 (Ptprc), Tyr

* Please contact LabServices@crl.com to inquire on the availability of assays for your particular model.

MAX-BAX® Congenic Strain Production Strategies

[Learn More](#)

Marker-assisted accelerated backcrossing (MAX-BAX®) could save a year and a half or more of breeding by screening the background strain genetics of your research animals and selecting those with the highest percentage of the desired background. Our MAX-BAX® service is a custom microarray platform that utilizes robust fluorescence-based assays. The 384 SNP marker screens are strategically spaced across the genome to analyze common polymorphisms found between inbred strains.



Efficient Method for Screening CRISPR/Cas9-Generated Mutations

[Learn More](#)

Charles River offers PCR-based screening services for CRISPR/Cas9-generated models to quickly and accurately identify which founders or cell lines carry mutations with small INDELS at the intended targeting site. Our PCR analysis platform based on microfluidic, laser-induced fluorescence technology allows sensitive detection of heteroduplex formation when small INDELS are present, which is the basis for T7 endonuclease digestion, the most commonly used screening method for CRISPR/Cas9-generated mutations.

Trinucleotide Repeat Size Analysis

For many disease models, trinucleotide repeat size directly correlates with disease phenotype. It is well known the repeat size can undergo expansion or shrinkage both during meiosis and mitosis. Therefore, it is critical to monitor the repeat size routinely.

At Charles River, we can determine trinucleotide repeat (and other similar repeat) size accurately by a special PCR capable of amplifying through the repeat region, followed by sensitive detection with high resolution through capillary electrophoresis. Repeat size is calculated based on the top peak in the middle of a typical stutter band pattern.



cradl

**charles river accelerator
& development lab**

Slowing your preclinical research to build and staff private vivaria lab space is often not the right approach when you want to remain financially agile and maximize resources. CRADL® offers turnkey vivarium rental space for emerging or well-established biotech and pharmaceutical companies, as well as academic institutions looking to expand vivarium space without a cost-prohibitive build.

[Tour A CRADL](#)



Turnkey

CRADL® combines modern vivarium space with industry-leading expertise in animal husbandry and vivarium management to ensure you have what you need to achieve your research milestones on time and on budget. Clients immediately gain access to supplemental equipment and technical services, and our expert staff are on hand to customize a program to your specific requirements.

Humane Care (IACUC Support)

Charles River's Humane Care Imperative is overseen by our Animal Welfare and Training group. The Institutional Animal Care and Use Committee (IACUC) provides oversight and protocol/amendment review and approval. They ensure that our facilities comply with stringent standards of practice and accepted guidance for the care and use of laboratory animals.

Veterinary Support

Continuous oversight to ensure the health and welfare of all animals at CRADL®.

Technical Services

Experienced staff are available to provide additional study support functions such as dosing, sampling and measurements, study preparation, and more.

Equipment Rental

Core rack and caging equipment provided. Additional standard research equipment is available for rent.

Procurement Services

Approved vendor-sourced animals and research supply ordering.

Full Services

Flexible

From small or startup companies that realize the value in focusing on their research and partnering with an industry expert to manage day-to-day vivarium functions, to mid-sized to larger institutions that have either outgrown their existing space or are looking to expand their research footprint without building additional infrastructure, our vivarium services are the ideal solution.

CRADL® has several options available depending on your study requirements. Space is available for short- and long-term durations, and can be privately occupied or shared with other partners as a low-cost solution for start-up or pilot research projects.

Shared Rooms

Low-cost solution for start-up or pilot research projects. Holding and procedure rooms are available as shared rooms. A three-month commitment/contract is available.

Dedicated Rooms

Private rooms are available for clients looking to conduct studies that can be customized to be dedicated animal holding or procedure rooms. The minimum commitment/contract is six months.

Expanded Suites

These larger rooms are equipped with both animal holding and procedure space to provide clients with a complete solution.

Comprehensive

CRADL® not only provides a turnkey vivarium rental solution, it also grants you access to *in vivo* support services within Charles River, increasing the potential for your research to progress forward. Whether you need to create a unique transgenic model, are looking for histopathology support, or need to design a program that ensures the health and genetic integrity of your research animal colonies is upheld, these services can be added as part of your Charles River total package offering.

Customized *in vivo* support services include:

- Transgenic model creation
- Surgery and pre-conditioning services
- Rapid animal colony development
- Histopathology and tissue collection
- Cryopreservation services
- Cell line and biologics screening
- Quarantine services
- Animal genotyping services

Learn More



Glossary of Terms





Glossary of Terms

Agent	Abbreviation	Family/Order	Subfam/Genus	Host Species*
Adenovirus	MAV, RAD	Adenoviridae	Mastadenovirus	M, R
Aleutian disease virus	ADV	Parvoviridae	Amdovirus	F
Cilia-associated respiratory bacillus	CARB	Unclassified	Unclassified	M, R, Rb
<i>Clostridium piliforme</i>	CPII	Clostridaceae	Clostridium	M, R, Rb, F
Distemper virus	CDV	Paramyxoviridae	Morbillivirus	F
Ectromelia virus (Mousepox)	ECTRO	Poxviridae	Orthopoxvirus	M
Eimeria	EIM	Eimeriidae	Eimeria	M, Rb
<i>Encephalitozoon cuniculi</i>	ECUN	Pleistophoridae	Encephalitozoon	M, R, GP, H, Rb
Encephalomyocarditis virus	EMCV	Picornaviridae	Cardiovirus	M, R
Guinea pig adenovirus	GAV	Adenoviridae	Mastadenovirus	GP
Guinea pig cytomegalovirus	GpCMV	Herpesviridae	Betaherpesvirus	GP
Hantaan	HTNV (HANT)	Bunyaviridae	Hantavirus	M, R
Infectious pancreatic necrosis virus	IPNV	Birnaviridae	Aquabirnavirus	Z
Infectious spleen and kidney necrosis virus	ISKNV	Iridoviridae	Megalocytivirus	Z
Influenza A virus	INFA	Orthomyxoviridae	Influenzavirus A	F
Kilham rat virus	KRV	Parvoviridae	Protoparvovirus	R
Lactate dehydrogenase elevating virus	LDV/LDH	Arteriviridae	Arterivirus	M
Ljungan virus	LV	Picornaviridae	Parechovirus	R
Lymphocytic choriomeningitis virus	LCMV	Arenaviridae	Arenavirus	M, R, GP, H
Minute virus of mice	MVM	Parvoviridae	Protoparvovirus	M
Murine chapparrovirus	MuCPV, MKPV, RoChPV-1	Parvoviridae	Chapparravirus	M
Mouse cytomegalovirus	MCMV	Herpesviridae	Betaherpesvirus	M
Mouse hepatitis virus	MHV	Coronaviridae	Betacoronavirus	M
Mouse parvovirus	MPV-1/-2/-5	Parvoviridae	Protoparvovirus	M
Mouse pneumonitis virus	K	Polyomaviridae	Polyomavirus	M
Mouse thymic virus	MTLV	Herpesviridae	Roseolovirus	M
Murine norovirus	MNV	Caliciviridae	Norovirus	M
Murine rotavirus	EDIM/ROTA-A	Reoviridae	Rotavirus	M
<i>Mycoplasma arthritis</i>	MARTH	Mycoplasmataceae	<i>Mycoplasma</i>	M, R
<i>Mycoplasma pulmonis</i>	MPUL	Mycoplasmataceae	<i>Mycoplasma</i>	M, R

* Species: M = mouse, R = rat, GP = guinea pig, H = hamster, Rb = rabbit, F = ferret, Z = zebrafish

Glossary of Terms

Agent	Abbreviation	Family/Order	Subfam/Genus	Host Species*
Myxomatosis virus	MYXO	Poxviridae	Leporipoxirus	Rb
Parainfluenza virus (type 1)	PIV-1	Paramyxoviridae	Respirovirus	Rb
Parainfluenza virus (type 2)	PIV-2	Paramyxoviridae	Rubulavirus	Rb
Parainfluenza virus (type 3)	PIV-3	Paramyxoviridae	Respirovirus	GP
Parainfluenza virus (type 5)	PIV-5	Paramyxoviridae	Rubulavirus	GP, H
Pneumocystis carinii	PCAR	Pneumocystidaceae	Pneumocystis	R
Pneumonia virus of mice	PVM	Paramyxoviridae	Pneumovirus	M, R, GP, H
Polyoma virus	POLY	Polyomaviridae	Polyomavirus	M
Prospect Hill virus	PHV	Bunyaviridae	Hantavirus	M
Rabbit adenovirus	RbAV	Adenoviridae	Mastadenovirus	Rb
Rabbit adenovirus	RbAV	Adenoviridae	Mastadenovirus	Rb
Rabbit hemorrhagic disease virus	RHDV	Caliciviridae	Lagovirus	Rb
Rabbit picobirnavirus	RPBV	Picobirnaviridae	Picobirnavirus	Rb
Rabbit rotavirus	ROTA	Reoviridae	Rotavirus	Rb
Rat coronavirus/sialodacryoadentitis virus	RCV, SDAV	Coronaviridae	Betacoronavirus	R
Rat cytomegalovirus	RCMV	Herpesviridae	Betaherpesvirus	R
Rat minute virus	RMV	Parvoviridae	Protoparvovirus	R
Rat parvovirus	RPV	Parvoviridae	Protoparvovirus	R
Rat polyomavirus	RatPyV2/RPyV2	Polyomaviridae	Unclassified	R
Rat rotavirus (infectious diarrhea of infant rats)	IDIR/ROTA-B	Reoviridae	Rotavirus	R
Rat theilovirus (Theiler's-like virus of rats)	RTV	Picornaviridae	Theilovirus	R
Reovirus	REO	Reoviridae	Orthoreovirus	M, R, GP, H
Rodent Protoparvovirus NS-1	NS-1	Parvoviridae	Protoparvovirus	M, R
Sendai virus	SEND	Paramyxoviridae	Respirovirus	M, R, GP, H
Seoul virus	SEO	Bunyaviridae	Hantavirus	M, R
Theiler's murine encephalomyelitis virus	TMEV (GDVII)	Picornaviridae	Cardiovirus	M, R
Toolan's H-1 virus	H-1	Parvoviridae	Protoparvovirus	R
Toxoplasma gondii	TOXO	Sarcocystidae	Toxoplasma	Rb
Treponema paraluis-cuniculi	TREP	Spirochaetales	Treponema	Rb

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Epstein-Barr virus	EBV	Herpesviridae	Lymphocryptovirus	Simian
Hepatitis A	HEP-A	Picornaviridae	Hepatitis virus	Simian
Herpes B virus	HBV	Herpesviridae	Alphaherpesvirus	Simian
Herpes virus papio-2	HVP-2	Herpesviridae	Alphaherpesvirus	Simian
Lymphocryptovirus	LCV	Herpesviridae	Lymphocryptovirus	Simian
Macaque (Rhesus) rhadinovirus	MRV	Herpesviridae	Rhadinovirus	Simian
Malaria (Plasmodium)	MAL	Plasmodiidae	Plasmodium	Simian
Measles virus	MV	Paramyxoviridae	Morbillivirus	Simian
Parainfluenza virus (type 5)	PIV-5 (SV-5)	Paramyxoviridae	Rubulavirus	Simian
Simian agent 8	SA-8	Herpesviridae	Simplexvirus	Simian
Simian cytomegalovirus	SCMV/CMV	Herpesviridae	Cytomegalovirus	Simian
Simian foamy virus	SFV	Retroviridae	Spumavirus	Simian
Simian immunodeficiency virus	SIV	Retroviridae	Lentivirus	Simian
Simian rotavirus	SA-11	Reoviridae	Rotavirus	Simian
Simian T-lymphotropic virus	STLV	Retroviridae	Deltaretrovirus	Simian
Simian type D retrovirus	SRV	Retroviridae	Betaretrovirus	Simian
Simian varicella virus	SVV	Herpesviridae	Varicellovirus	Simian
Simian virus 40	SV-40	Polyomaviridae	Polyomavirus	Simian
Trypanosoma cruzi (Chagas Disease)	T. cruzi/CHA	Trypanosomatidae	Trypanosoma	Simian