C57BR/cdJ mice show variable incidence of spinal cord epidermoid cysts, primarily in the leptomeninges adjacent to the posterior horn and lateral/anterior columns. Mice of this strain show several behavioral differences from many other inbred strains.

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
</table>

**RESEARCH APPLICATIONS**

- Metabolism Research
- Research Tools
- Neurobiology Research
- Sensorineural Research
- Cardiovascular Research

**BASE PRICE**

Starting at:

$2,854.50 Domestic price Cryo Recovery
Important Note
This strain is homozygous for \textit{Cdh23}^{ahl}, the age related hearing loss 1 mutation, which on this background results in progressive hearing loss.

Detailed Description

C57BR/cdJ mice develop early-onset hearing loss that is moderate at seven weeks of age, is severe by 20 weeks and progresses with increasing age (Henry 1982; Zheng et al. 1999). The loss is greatest in the higher frequency range; at seven weeks, Henry reported 50\% of the mice showed no 64 kHz auditory brainstem response (ABR), and by 100 days both the 2 kHz and 32 kHz responses were absent. Both labs found this strain to be least vulnerable to loss of the 16 kHz response, which persisted through 200 days but was lost before 300 days of age (Henry 1982). C57BR/cdJ did not exhibit aberrant ABR wave patterns, suggesting that the hearing loss results from defects of the peripheral, rather than central auditory system (Zheng et al. 1999). F1 hybrid progeny from matings with the good-hearing strain CAST/Ei exhibited good hearing even at advanced ages, indicating that the allele(s) responsible for hearing loss in C57BR/cdJ are recessive. An allelism test between C57BR/cdJ and NOD.NON-H2\textsuperscript{rb} showed the mutations responsible for hearing loss in these two strains not to be allelic; NOD.NON-H2\textsuperscript{rb} shares the deafness allele(s) of A/J, ALR/LtJ and DBA/2J (Zheng et al. 1999).

C57BR/cdJ mice showed variable incidence of spinal cord epidermoid cysts, primarily in the leptomeninges adjacent to the posterior horn and lateral/anterior columns. The cysts comprised "a whorled mass of keratinized cells surrounded by polygonal epithelial cells," some of which contained keratohyaline granules. No basal cells were present. (Stroop 1884).

EEG studies demonstrated that although C57BR/cd mice spend less time sleeping, a greater proportion of their sleep time is spent in paradoxical sleep (PS)(equivalent to human rapid eye movement, or REM sleep) than is true of mice of six other inbred strains tested (Pagel et al. 1973). Whereas C57BL/6 mice learn slowly, gradually improving their performance at a rate dependent upon the number of training trials, C57BR/cd mice fail to improve during the initial training, but show improvement after a delay of at least eight to 10 hours; overall, C57BR/cd mice are fast learners. PS deprivation has no effect on either discriminatory or active avoidance learning in C57BL/6, BALB/c or SEC mice. In contrast, PS deprivation for 24 hours impairs learning of discriminatory tasks by C57BR/cd mice, and six hours' PS deprivation immediately following the initial training abolishes their time-dependent improvement in avoidance learning. Continuous PS deprivation causes C57BR/cd mice to learn at the same rate as C57BL/6 mice. Interestingly, although BALB/c mice show a time-delayed improvement in learning acquisition for an appetitive task similar to that of C57BR/cd mice for avoidance learning, neither C57BR/cd nor C57BL/6 exhibit show such time-dependent improvement in appetitive learning (Kitahama et al. 1981 and references cited therein).
C57BR/cdJ

Genotyping Protocols
Genotyping resources and troubleshooting

Breeding Considerations
This inbred strain is maintained by sibling mating.

Additional Breeding and Husbandry Support
Mating System
Sibling x Sibling
Appearance
brown
Related Genotype: a/a Typr1b/Typr1b
Citation
When using the C57BR/cdJ mouse strain in a publication, please include JAX stock #000667 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions

Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, G200
Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

### Pricing & Availability

#### Cryo Recovery

Inbred, 1 pair minimum will be supplied

<table>
<thead>
<tr>
<th>SERVICE/PRODUCT</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Inbred, 1 pair minimum will be supplied</td>
<td>$2,854.50</td>
</tr>
</tbody>
</table>

#### Payment Terms and Conditions

Terms are granted by individual review and stated on the customer invoice(s) and account statement. These transactions are payable in U.S. currency within the granted terms. Payment for services, products, shipping containers, and shipping costs that are rendered are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of stated terms may result in The Jackson Laboratory pursuing collection activities including but not limited to outside agencies and court filings.

#### The Jackson Laboratory's Genotype Promise

The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. Therefore, we cannot guarantee a strain’s phenotype will meet all expectations. To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project.

---

### Terms Of Use

#### Terms Of Use

General Terms and Conditions

**MICE** means mouse strains, their progeny derived by inbreeding or crossbreeding, unmodified derivatives from mouse strains or their progeny supplied by The Jackson Laboratory ("JACKSON"). "PRODUCT(S)" means biological materials supplied by JACKSON, and their derivatives. "SERVICES" means projects conducted by JACKSON for other parties that may include but are not limited to the use of MICE or PRODUCTS. "RECIPIENT" means each recipient of MICE, PRODUCTS, or SERVICES provided by JACKSON including each institution, its employees and other researchers under its control. MICE or PRODUCTS shall not be: (i) used for any purpose other than internal research, (ii) sold or otherwise provided to any third party for any use, or (iii) provided to any agent or other third party to provide breeding or other services.
Acceptance of MICE, PRODUCTS or SERVICES from JACKSON shall be deemed as agreement by RECIPIENT to these conditions, and departure from these conditions requires JACKSON’s prior written authorization.

**No Warranty**

MICE, PRODUCTS AND SERVICES ARE PROVIDED "AS IS". JACKSON EXTENDS NO WARRANTIES OF ANY KIND, EITHER EXPRESS, IMPLIED, OR STATUTORY, WITH RESPECT TO MICE, PRODUCTS OR SERVICES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY OF NON-INFRINGEMENT OF ANY PATENT, TRADEMARK, OR OTHER INTELLECTUAL PROPERTY RIGHTS.

**Credit for PRODUCTS or SERVICES**

In case of dissatisfaction for a valid reason and claimed in writing by a purchaser within ninety (90) days of receipt of, PRODUCTS or SERVICES, JACKSON will, at its option, provide credit or replacement for the PRODUCT received or the SERVICES provided; JACKSON makes no other representations and this shall be the exclusive remedy of the purchaser. Please note specific policy for live mice.

**Animal Care and Use for SERVICES**

Consistent with the requirement for a written understanding regarding animal care and use, the JACKSON Animal Care and Use Committee will review the animal care and use protocol(s) associated with any SERVICES to be performed at JACKSON, and JACKSON shall have ultimate responsibility and authority for the care of animals while on site or in JACKSON custody.

**No Liability**

In no event shall JACKSON, its trustees, directors, officers, employees, and affiliates be liable for any causes of action or damages, including any direct, indirect, special, or consequential damages, arising out of the provision of MICE, PRODUCTS, or SERVICES, including economic damage or injury to property and lost profits, and including any damage arising from acts or negligence on the part of JACKSON, its agents or employees. Unless prohibited by law, in purchasing or receiving MICE, PRODUCTS, or SERVICES from JACKSON, purchaser or recipient, or any party claiming by or through them, expressly releases and discharges JACKSON from all such causes of action or damages, and further agrees to defend and indemnify JACKSON from any costs or damages arising out of any third party claims.

MICE, PRODUCTS or SERVICES are to be used in a safe manner and in accordance with all applicable governmental rules and regulations.

The foregoing represents the General Terms and Conditions applicable to JACKSON’s MICE, PRODUCTS or SERVICES. In addition, special terms and conditions of sale of certain MICE, PRODUCTS, or SERVICES may be set forth separately in JACKSON web pages, catalogs, price lists, contracts, and/or other documents, and these special terms and conditions shall also govern the sale of these MICE, PRODUCTS and SERVICES by JACKSON, and by its licensees and distributors.

Acceptance of delivery of MICE, PRODUCTS or SERVICES shall be deemed agreement to these terms and conditions. No purchase order or other document transmitted by purchaser or recipient that may modify the terms and conditions hereof, shall be in any way binding on JACKSON, and instead the terms and conditions set forth herein, including any special terms and conditions set forth separately, shall govern the sale of MICE, PRODUCTS or SERVICES by JACKSON.

---

**Related Strains**

<table>
<thead>
<tr>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>By Allele</td>
</tr>
<tr>
<td>By Gene</td>
</tr>
<tr>
<td>By Collection</td>
</tr>
</tbody>
</table>