



GENETICALLY ENGINEERED MODELS AND SERVICES

Rederivation Services

Services Offered

- Embryo and sperm rederivation
- Rapid rederivation
- IVF rapid expansion
- Cryopreservation
- Embryo transfer

Charles River can remove adventitious organisms, such as viruses, bacteria and parasites, from mice and rats with our rederivation services. Rederived animals are guaranteed to meet our SOPF - VAF/Elite® health status and will be maintained in biosecure isolator environment to protect the health of the colony. We have rederived over 10,000 unique strains of mice and rats with 100% removal of unwanted organisms.

Embryo Rederivation

This service is recommended for use with homozygous lines, lines with multiple genetic mutations or rats. A non-rederived live colony will be maintained until deliverables are met.

Sperm Rederivation

This service is recommended for use with non-homozygous, single mutation mouse lines.

Rapid Rederivation

Rapid rederivation services significantly reduce the time and cost associated with the rederivation procedure for mice and rats. We guarantee to return at least two visibly pregnant females to clients in as little as six weeks.

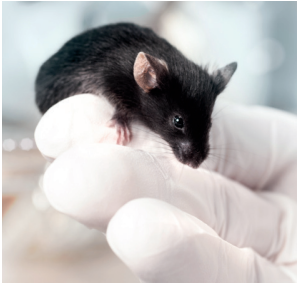
IVF Rapid Expansion

IVF-based rederivation and expansion for mice can provide a large quantity of animals to help obtain an established colony faster. Included in this service is a comprehensive health evaluation of the rederived colony to confirm the success of the expansion and guarantee that animals are of SOPF - VAF/Elite® status.

Cryopreservation

In conjunction with rederivation, it is often advisable to cryopreserve embryos and/or sperm to provide backup in the case of a future colony loss.

EVERY STEP OF THE WAY



Embryo Transfer

Embryo collection and transfer techniques minimize the risk of transmitting agents that could infect the uterus and or placenta. Rederivation by embryo transfer decreases the risk of a foster mother rejecting pups. This method eliminates the need for precise timing of cesarean surgery, a common obstacle with transgenic and knock-out lines in which gestation length often varies. Charles River performs hundreds of embryo transfer rederivations each year.

Charles River and The Jackson Laboratory have a cooperative agreement to provide local supplies of JAX™ Mice to biomedical researchers in many European and Asian countries. Charles River breeding facilities also serve as The Jackson Laboratory's local provider of certain research services using JAX™ Mice, including rederivation of C57BL/6J or BALB/cByJ.



Service Flow

1. Charles River organizes transfer of animals to our site.
2. Project Manager determines objectives and strategy for the project once animals are received. Results are guaranteed based on standard reproductive parameters.
3. Technical team implements the rederivation project.
4. ICM customer portal provides direct, two-way communication with project manager during rederivation project.
5. Charles River arranges the shipment of animals at the end of the project or establishes a breeding colony and protocol in our facilities.

Available Rederivation Services

Service	Description	Requirements	Deliverables	Timelines
Embryo I Rederivation (Rapid Rederivation)	Transgenic males x wildtype females	Mice: 2 -3 males*	<ul style="list-style-type: none"> • At least 2 visibly pregnant females (visual identification between D14 and D16); birth in the customer's facility • Health status of the pups depends on the housing conditions of pregnant females in the customer's facility • Shipment is approved by the Charles River IACUC with special modalities (paper, wood shavings, etc.) 	7 weeks
		Rats: 6 males*		
Embryo II Rederivation	Transgenic males x wildtype females	Mice: 2 -3 males*	<ul style="list-style-type: none"> • At least 3 SOPF couples or 10 SOPF animals 	17 weeks
	Transgenic males x transgenic females	Mice: 2 -3 males* + 12 females† Rats: 6 males* + 12 females†		

* Male mice or rats: <16 weeks old for naïve males or <24 weeks old for proven male breeders.

† Female mice and rats: 7-16 weeks old.

Optional Services include

- If you require additional SOPF animals, depending on your needs, Charles River can provide either additional recipient females or a rapid expansion service of your colony
- Identification and biopsy of rederived animals
- Genotyping (PCR, qPCR, SNP)
- Health monitoring management



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