

Embryology Services

The number of genetically altered lines developed and maintained for research in animal facilities continually increases. Laboratories often develop their own strains, genetically modified for specific purposes. The high value of these strains often results in their continued maintenance, even though they may not be utilized for long periods. Such maintenance may produce excess animals, and is also financially expensive.

Inotiv's embryology services provides a method to permanently preserve and recover the genetic integrity of an animal colony and avoid unnecessary breeding, thereby being in line with the 3R-principle. It also provides a cost effective means to safeguard your valuable model lines in the event of a catastrophic colony disaster.

In addition it;

- Eliminates maintenance of colonies to sustain available research models (3R-principle)
- Reallocates production space and associated resources to other areas of research priority
- Preserves and recovers the genetic integrity of research models for future colony development
- Provides insurance against physical, genetic, and pathologic disasters
- Harvest at early stage embryos and implant into clean and healthy surrogates
- Number of embryos and pups dependent upon fecundity of model and client's breeding scheme
- Embryo + Sperm storage free for the first year

The Inotiv advantage



Full import and export service



State of the art technologies employed



Services offered at multiple locations/facilities



Quarantine facilities



Dedicated project management



Contract Breeding Services

Cryopreservation – embryo or sperm

SERVICE	REQUIREMENTS	PROJECT OUTCOME
Embryo cryopreservation using homozygous, heterozygous or wild type females - Mouse and Rat	<ul style="list-style-type: none"> • 6-8 donor males (6-27 wk) • 35 wild-type donor females (3-4 wk) • Genotype and background of donors 	<ul style="list-style-type: none"> • Approximately 200-300 embryos • <i>In vitro</i> QC • Free storage for the first year
Mouse Sperm cryopreservation	<ul style="list-style-type: none"> • 2-4 donor males (6-27 wk) • Genotype and background of donors 	<ul style="list-style-type: none"> • Approximately 20-22 straws • <i>In vitro</i> fertilization QC (2 cell embryo stage) • Free storage for the first year
Storage and Fees		<ul style="list-style-type: none"> • Free storage for the first year • Up to 500 embryos in total • Up to 50 straws of sperm in total
Live Birth Quality Control for Mouse or Rat Cryopreserved Embryos	<ul style="list-style-type: none"> • 40 embryos, minimum 	<ul style="list-style-type: none"> • <i>In vivo</i> QC to generate live offspring • Viable embryos transferred into recipient animals to generate live offspring • Confirmation of embryo viability
Live Birth Quality Control for Mouse Cryopreserved Sperm	<ul style="list-style-type: none"> • 2-3 straws of sperm 	<ul style="list-style-type: none"> • <i>In vitro</i> QC to generate live offspring • Viable embryos transferred into recipient animals to generate live offspring • Confirmation of sperm viability

The above tables are guidelines to achieve the projected outcome. Your dedicated project manager will work with you to customize a plan that best suits your needs.

Contract Breeding Services

Rederivations and speed rederivations – rat and mouse

Rederivation is a procedure used to establish pathogen free animals and to improve the overall animal health status of a colony. Inotiv uses embryo transfer to generate small cohorts of pups. Once completed, you have the option of sustaining your line at Inotiv for continued colony maintenance and breeding.

Rederivations and speed rederivations

SERVICE	REQUIREMENTS	PROJECT OUTCOME
Rederivation with health screening	<ul style="list-style-type: none">• 5 donor males (6-27 wk)• 10 donor females (3-4 wk) or• 15 wild-type donor females (3-4 wk)• Genotype and background of donors	<ul style="list-style-type: none">• Small cohort with a specified health status• Shipping and container fees are additional• Alternatively, maintain and breed colony through Contract Breeding Services

Contract Breeding Services

Revitalization of embryo or sperm – rat and mouse

Revitalization is a procedure used to establish a small cohort of specific pathogen free animals from cryopreserved material (embryos or sperm). Inotiv offers several revitalization options:

Revitalization - cryopreserved embryo or sperm

SERVICE	REQUIREMENTS	PROJECT OUTCOME
Revitalization of embryos with health screening – Mouse and Rat	<ul style="list-style-type: none">• 100 cryopreserved embryos• Freezing and thawing protocol• QC report	<ul style="list-style-type: none">• Small cohort with a specified health status• Includes rederivation services, recipient and offspring housing and health monitoring
Revitalization of sperm with health screening – Mouse only	<ul style="list-style-type: none">• 3-5 straws of cryopreserved sperm• Freezing and thawing protocol• QC report	<ul style="list-style-type: none">• Small cohort with a specified health status• Includes rederivation services, recipient and offspring housing and health monitoring
Revitalization of embryos with health screening (embryos from a discontinued line, either mouse or rat)		<ul style="list-style-type: none">• Small cohort with a specified health status• Includes rederivation services, recipient and offspring housing and health monitoring

Once completed, you have the option of maintaining your line at Inotiv for continued colony maintenance and breeding.



Contract Breeding Services

Cryo/rederivation combo – rat and mouse

In some situations it is practical to combine the rederivation effort with cryopreservation (embryos or sperm) of the same line. Inotiv offers the following cost effective options. Once completed, you have the option of maintaining your line at Inotiv for continued colony maintenance and breeding.

Cryo/rederivation combo

SERVICE	REQUIREMENTS	PROJECT OUTCOME
Mouse Embryo	<ul style="list-style-type: none"> • Wildtype or customer females 	<ul style="list-style-type: none"> • Rederivation to generate a small cohort of offspring at SPF or SOPF health status • Cryopreservation of 150 embryos • Includes <ul style="list-style-type: none"> • Donor animal housing • Recipient and offspring housing • Health monitoring • <i>In vitro</i> culture QC • Free storage for the first year
Rat Embryo	<ul style="list-style-type: none"> • Wildtype or customer females 	<ul style="list-style-type: none"> • Rederivation to generate a small cohort of offspring at SPF or SOPF health status • Cryopreservation of 100 embryos • Includes <ul style="list-style-type: none"> • Donor animal housing • Recipient and offspring housing • Health monitoring • <i>In vitro</i> culture QC • Free storage for the first year
Mouse Sperm	<ul style="list-style-type: none"> • Wildtype or customer females 	<ul style="list-style-type: none"> • Rederivation to generate a small cohort of offspring at SPF or SOPF health status • Cryopreservation of 10-12 straws of sperm • Includes <ul style="list-style-type: none"> • Donor animal housing • Recipient and offspring housing • Health monitoring • <i>In vitro</i> culture QC • Free storage for the first year

The above tables are guidelines to achieve the projected outcome. Your dedicated project manager will work with you to customize a plan that best suits your needs.

Our Embryology and Contract Breeding Services staff is dedicated to providing high quality, reliable, and consistent results. By continuously striving to achieve this level of performance, we deliver not only what matters to our customers, but we aim to be the most dependable supplier of Embryology and Contract Breeding Services in the industry. Inotiv offers a service within close proximity of your facility.

For pricing and additional information, contact us at servicesPMG.US@inotiv.com or servicesPMG.EU@inotiv.com