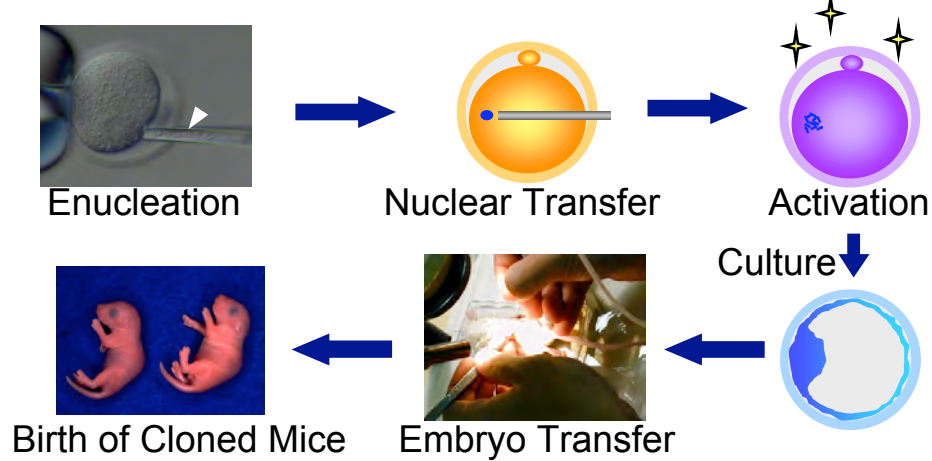


Animal Bioresource Engineering

Professor: Atsuo OGURA, PhD, DVM, Associate Prof: Kimiko INOUE, PhD

Four major researches of Animal Bioresource Engineering

1. Somatic Cell Nuclear Transfer



Hematopoietic Stem Cells



Neural Stem Cells



Natural Killer Cells



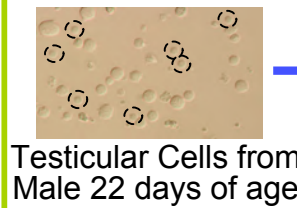
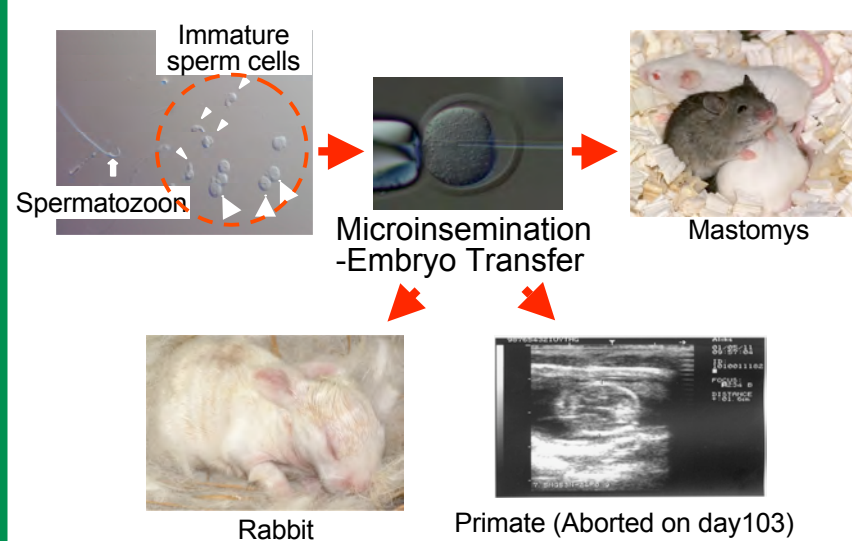
Female produced from a Male Somatic Cell

Birth of Offspring

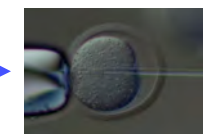


Cloned mice we have produced

2. Microinsemination



Testicular Cells from Male 22 days of age

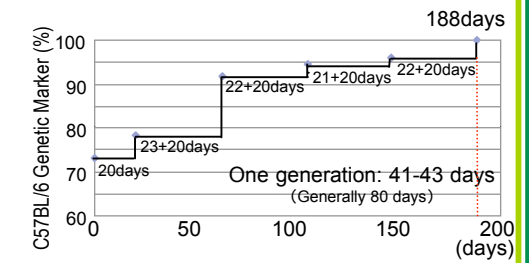


Insemination-Embryo Transfer

High Speed Congenic using round spermatids



Birth of Offspring



3. Cryopreservation of embryos and gametes

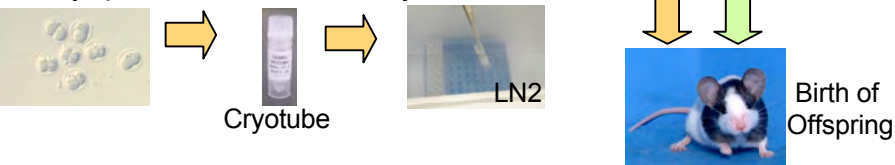
1. Cryopreservation of Sperm



2. Cryopreservation of Oocytes



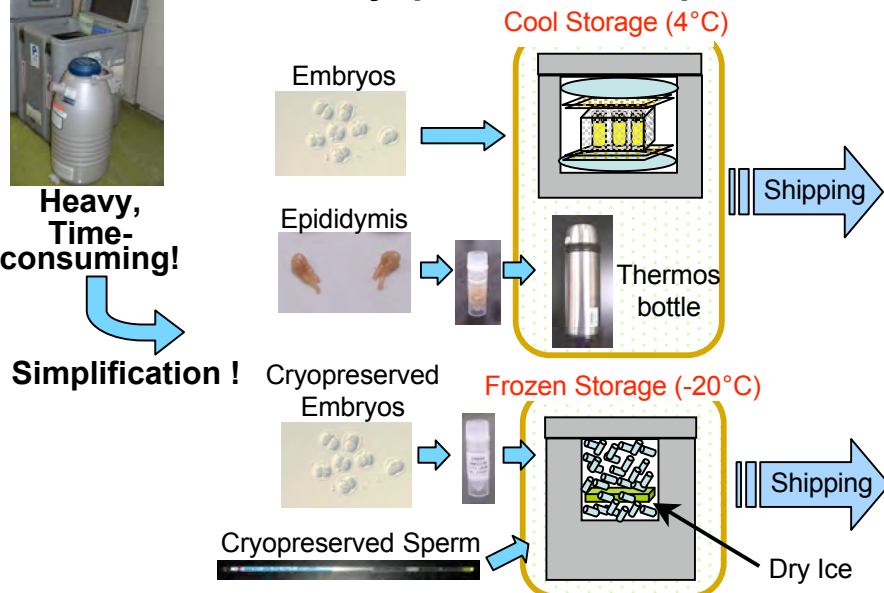
3. Cryopreservation of Embryos



Dryshipper



Advanced technique of Shipping for Cryopreserved Samples

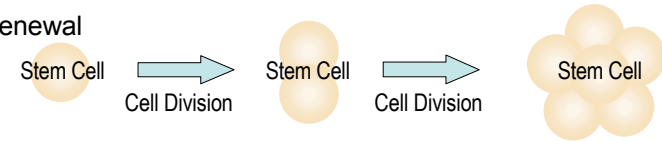


4. Establishment of stem cell lines

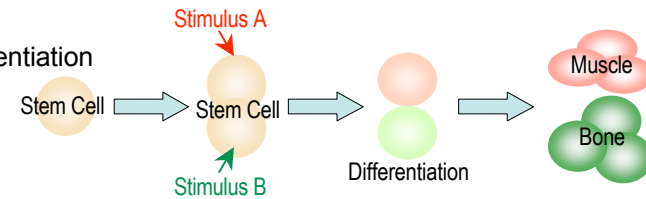
What is Stem Cells?

Stem Cells have following two abilities.

1. Self-Renewal



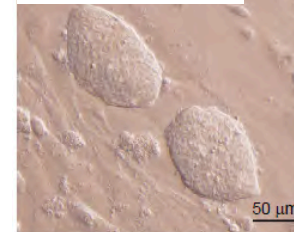
2. Differentiation



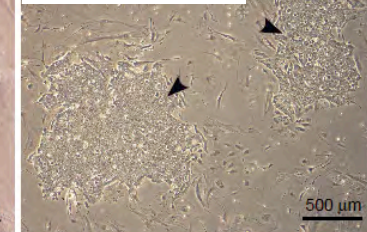
Why do we establish new Stem Cells?

They could be expected to use for the regenerative medicine or development of new techniques. However, we should investigate enough their stability and safety in various animal species before application to patients.

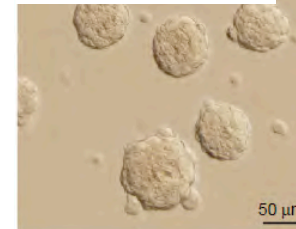
Mouse ES Cells



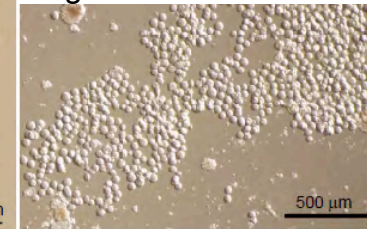
Rabbit ES Cells



Thecal Stem Cells



Large-Scale Culture of Oocytes



Stem cells we have established