1.0 OBJECTIVE

1.1 The objective of this Standard Operating Procedure (SOP) is to describe the procedures for the foster rearing of breeding mice housed at the Molecular Medicine Research Institute (MMRI) Animal Facility (AF).

2.0 SCOPE

2.1 This SOP applies to all of the mouse breeding colonies in the AF and covers the preparation, the actual cross fostering and until the pups are weaned.

3.0 POLICY

3.1 It is the policy of MMRI to establish written and approved procedures to assure that the animals are treated in a humane manner according to the Guide for the Care and Use of Laboratory Animals and educating personnel utilizing animals in their research.

4.0 RESPONSIBILITY

4.1 It is the responsibility of Manager of Animal Research or designated alternate to implement this SOP and revise it when necessary.

5.0 REFERENCES

5.1 “Mouse Genetics: Concepts and Applications", by Lee M. Silver, Oxford University Press 1995.

5.2 Guidelines for Breeding Genetically Engineered Mice at Memorial-Sloan Kettering Cancer Center at the Weill Medical College of Cornell University; Weil Liphann D.V.M., December 23, 2003.

6.0 PROCEDURE

6.1 Selection of a Suitable Foster Mother

6.1.1 Foster mothers should be of a stock or strain that typically has strong maternal instincts. Most outbred stocks do well while for inbred strains, BALB/c mice are typically good mothers. Choose a mother that has weaned a litter successfully in the recent past. Note: For the relaxin knock out breeding colony, use only +/- foster mothers to minimize the exposure of the pups to relaxin from the colostrum.

6.1.2 For best results, match the age of the litter to be fostered with the age of the foster mother’s natural litter. Newborn litters can be fostered with another litter of 1-3 days old.

6.1.3 The natural litter should be of a different coat color than the foster litter so the pups can be separated at weaning. If, however, the entire natural litter is removed and replaced with the foster litter, this is not necessary. Note: For the relaxin colony, the natural litter will be distributed to the other +/- foster mothers so that only the foster pups are nursed.

6.1.4 Do not use foster mothers older than 8 months.

6.2 Time of mating

6.2.1 If a supply of foster females is available, set up matings 1 day earlier, at the same time and 1 day after the donor females are mated.

6.3 Cross Fostering Procedure

6.3.1 Remove the proposed foster mother and place her in a holding cage.

6.3.2 Place the fosterlings in the nest and gently mingle the pups together to spread the scent. Rub feces from the foster mom on the backs of all the pups; she'll lick them off and will accept the pups as her own. Two or three of the foster mother's pups should be left in the nest to provide scent, but the remaining pups should be removed to ensure adequate milk supply. The final litter size should be between 6-10 pups. Note: For the relaxin colony, the foster pups will not be mixed with the natural litter because you will not be able to tell them apart.

6.3.3 Wait 15 to 30 minutes, and place the foster mother back in her home pen with the fosterlings. If she does not reject the litter within 10-15 minutes, it is likely she will continue to care for them.

6.3.4 Do not disturb the foster mother and her new litter for the first 24 hours but observe carefully for 1-2 days to be sure the litter is being cared for.