

FLSC Standard Operating Procedure for Timed Mating

Purpose

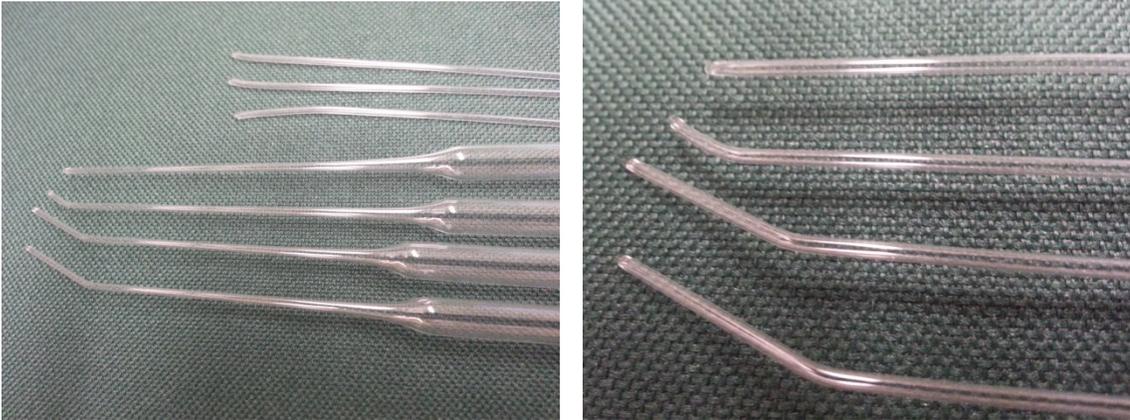
Studies where gestational age of feti is required will employ timed mating to determine the age of the unborn pups. Other studies may require synchronizing the birth of pups to other activities.

Materials

Blunt probe – preferably very fine tip

Alcohol

Cotton balls



Probes can be made in-house by fire polishing the tips of Pasteur pipettes or long capillary tubes. The tips can be bent for ease of use.

There are several mating schemes that can be used. Because rodents generally mate at night, pairs are set up at the end of the day.

Proestrus/Estrus Timed Mating: This method relies on pairing females with males at the point of maximum receptivity and fertility. The estrous cycle must be monitored in the females either by visual examination of the external genitalia for changes that are indicative of proestrus and estrus, or by cytology of vaginal secretions.

1. When females are determined to be in proestrus or estrus they are paired with males at the end of the day.
2. Females are examined for copulatory plugs first thing the next morning.
3. Females can be left in with the male during the day if they are checked for copulatory plugs at the end of the day.
4. Females will be removed from the breeding cage if it is determined they are no longer in proestrus or estrus.

Random Timed Mating: The estrous cycle of rodents is very short, 4-5 days long. Due to the short length of the cycle timed mating can be set up and the females checked for copulatory plugs every morning and evening until a plug is observed.

1. Females are paired with males in the evening.
2. Females are checked for copulatory plugs first thing every morning and at the end of the day.
3. Females remain paired with the males and are only separated for weekends and holidays.
4. Females are removed when copulatory plugs are observed.

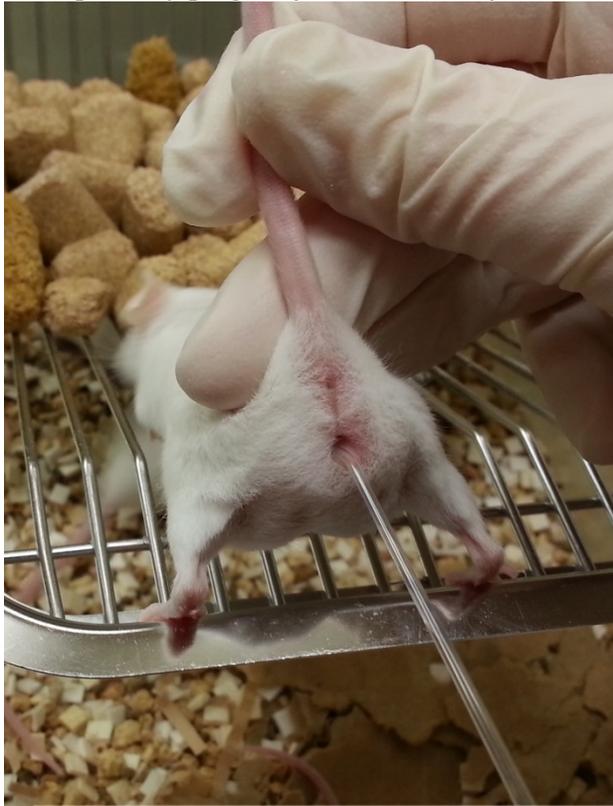
Copulatory plugs: The plug consists of vaginal fluid and semen and persists in the vagina for 12-24 post-copulation. The presence of the plug confirms mating but does not guarantee that the female is pregnant. If the plugged female is pregnant, the first day of gestation is considered to be the day after the plug is found.

1. Lift the mouse out of the cage and place her on the wire bar cage top with her tail towards you.

2. Position the mouse by applying pressure just above the tail to arch the back and allow better presentation of the vaginal opening.



3. Observe her vaginal opening for a whitish mass.
4. The copulatory plug may not be visually obvious and can be confirmed with the use of a blunt probe.



5. Using the tip of the probe, gently insert it into the vaginal opening. The presence of a copulatory plug will arrest the advancement of the probe within 0.3 mm of the vaginal opening.
6. The probe must be disinfected after each mouse with alcohol and dried completely before each use.