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Fecal Output Protocol

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We use this protocol and it's working

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Abstract

This assay is used to quantify the number of fecal pellets produced over a short period of time, which serves as a measure of colonic motility. Mice are placed into individual clear plastic beakers and the number of fecal pellets in the container are counted every 5 minutes over a 30 minute period.

Materials

1L Translucent Beakers

Prior to Assay

1 Prepare clean 1 liter (~12cm x 25cm) translucent beakers- sterilize if necessary, with aluminum foil covers. These should be autoclaved before use if collection of fecal pellets for microbiome analysis is required.

Day of Set-up

1h

2 Bring mice to testing room for at least 01:00:00 prior to assay, to acclimate (if testing mice in the same room they are housed no adjustment period is necessary). 1h

Day of Assay

50m

3 Separate 1L beakers and cut/rip foil into lids to cover each beaker individually.

4 Place each mouse individually into a beaker, cover with foil, and start timer. Generally, 8-10 animals can be
handled at once before start times begin to overlap.

5 ***Do not leave animals unattended while in beakers- they will attempt to jump out.***

6 In 00:05:00 intervals, gently lift each cylinder, and count the number of fecal pellets present on the beaker floor and walls. Record the number of pellets for a minimum of 00:15:00, up to 00:30:00. 50m

7 Because mice are coprophagic, some pellets may disappear (be eaten) over this experiment. To be consistent, record only the cumulative number of pellets observed. Pellets produced cannot “decrease” so the value should either stay level or increase in each 5 minute bin over the course of this assay.

8 Return animals to home cage, collect fecal pellets if needed.

Analysis

35m

9 Comparisons should be made between genotypes and treatment groups as to the amount of pellets produced in 00:30:00. There should also be comparisons of the amount of pellets 35m

produced at each 00:05:00 interval.