

Resource Summary Report

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UC Davis - Meal Pattern Analysis

DOI:10.17504/protocols.io.yrwfv7e

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Protocol Information

URL: <https://dx.doi.org/10.17504/protocols.io.yrwfv7e>

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Group: Mouse Metabolic Phenotyping Centers

Summary: Behaviorally, meals are defined as periods of intense feeding and drinking separated by periods of activity, grooming, and rest. A “meal” is the primary data unit for characterizing food intake behavior. Changes in the patterning of meals (number, size or duration) may affect food intake and energy balance indirectly. “Meal”, in our SOP, is defined by a minimum food intake of 0.02g and at least 10 min between food bout events. Detailed analysis of food intake behavior includes an assessment of average meal duration, average meal size, number of meals, average inter-meal interval (IMI), as well as calculation of satiety ratio. In addition, the diurnal (light cycle/dark cycle) patterns of food intake behavior are also calculated to examine temporal shifts in feeding behavior. Meal pattern and food intake behavior is measured in the Columbus Instruments Oxymax system within a temperature and light controlled cabinet. Animals are acclimated to the facility for at least 1 week. Animals are then acclimated to the CLAMS cages and powdered diet for 48 hours and to the light and temperature-controlled chamber for 24 hours prior to testing. Analyzed data constitutes data collected from 48 hours of continuous measurement (2 light/2 dark cycles).

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