

FLIC

Fly Liquid-Food Interaction Counter

High-Throughput Analysis of *Drosophila* Feeding Behavior

FLIC System Quantifies Feeding Behavior

The FLIC system provides a precise and continuous quantification of the number and duration of interactions a fly has with food. It complements conventional methods of analysis, such as the CAFE assay and tracer dye approaches, by allowing

comprehensive long-term studies of new and subtle aspects of feeding behavior.

The fruit fly is one of the most powerful model systems in which to dissect neural mechanisms of complex behavior such as

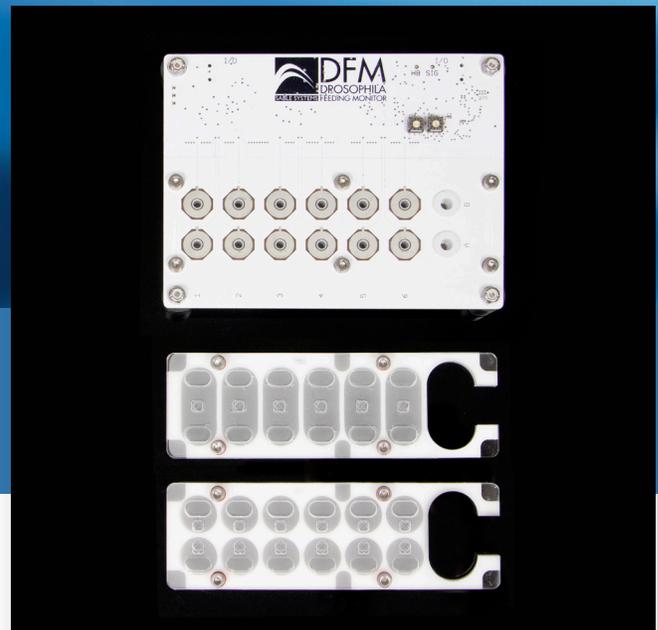
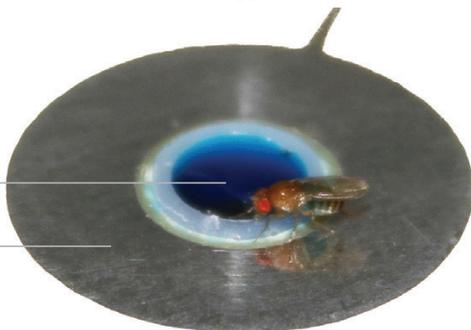
feeding, allowing researchers to study mechanisms of feeding preference and behavior using genetic and pharmacological means. Detailed analysis of food intake facilitates discovery in fields as diverse as aging, metabolism, and neurobiology.



Close up view of feeding well

Food Well

Signal Pad



FEATURES

Screen-friendly high throughput measurement

Ability to distinguish between tasting and feeding activity

High sensitivity – captures nearly every interaction between fly and food

Automated, real-time monitoring of feeding or food choice behavior

Preference assay is based on quantitative measure and independent from experimenter's bias

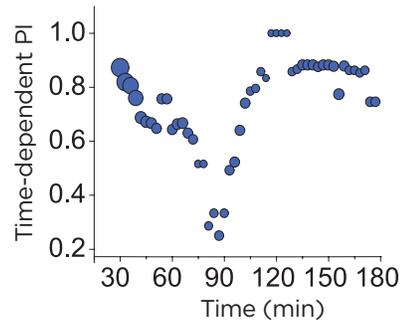
Food is easily accessible from the floor of the chamber, unlike capillary-feeding assays

No experimenter's interference; foods are introduced without disturbing flies

Top View

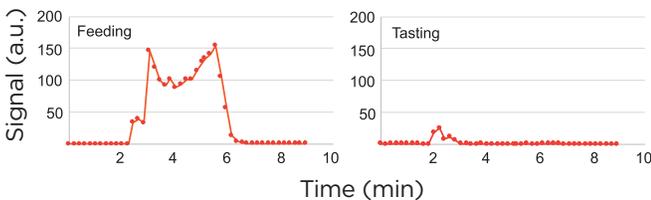


Capture Changes in Food Preference Over Time



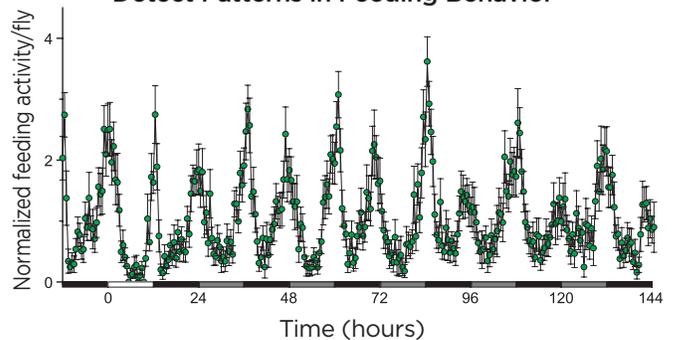
The FLIC system's real-time monitoring can capture a fly's subtle changes in food preference, shown as the preference index (PI), as the experiment progresses.

Distinguish Feeding From Tasting



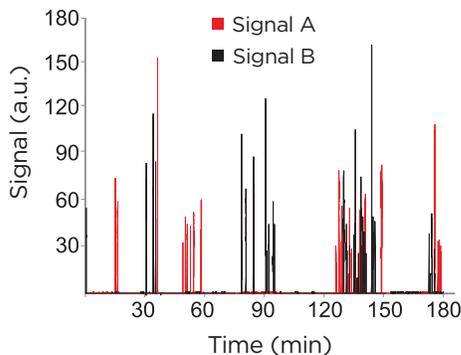
FLIC system analog signals demonstrate distinct behavioral characteristics of feeding (left) and tasting (right).

Detect Patterns in Feeding Behavior



A multi-day feeding experiment without experimenter's disturbance revealed circadian rhythm in feeding behavior for the first time.

Automated, Real-Time Data Collection



Representative signals from a single fly presented with a two-food-well feeding arena.

ABOUT US

Sable Systems International designs and manufactures leading-edge gas, metabolic and behavioral measurement systems for calorimetry, respirometry, metabolic/behavioral phenotyping, and gas analysis. Our products enable the highest precision and resolution, optimum workflow and reliable performance – giving you utmost confidence in your results. By scientists, for scientists, Sable enables results that impact research and industry breakthroughs.

Ro J, Harvaneck ZM, Pletcher SD (2014) FLIC: High- Throughput, Continuous Analysis of Feeding Behaviors in *Drosophila*. PLoS ONE 9(6): e101107. doi:10.



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