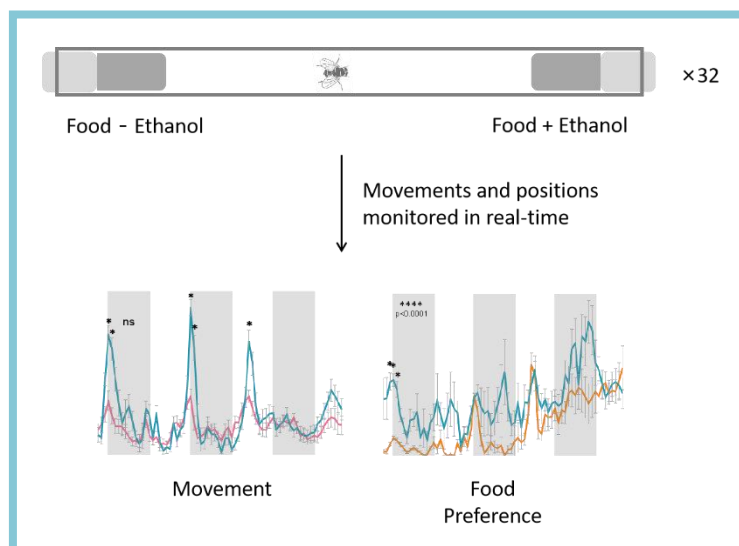




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A behavioral assay for monitoring food self-administration and movement in real-time in fruit fly and its application in alcohol research

The alcohol addiction problem is widespread and brings severe health burden every year. Many studies have been done on alcohol addiction in mammals, while fruit fly *Drosophila melanogaster* is better suited for discovery of alcohol-related genes. Here we describe the fly's fitness for alcohol research and develop a behavioral assay, which can assess food preferences and measure the movement of flies individually in real-time over several days, with the light/dark cycles under control. We attempt to investigate the alcohol self-administration and its relationship with other factors in flies. Despite the fact that overall, no significant alcohol preference ever showed over nonalcoholic food, flies preferred nonalcoholic food only in the beginning, which might indicate their addiction to alcohol in the following days. And these results have given us inspiration for future investigation.



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