Title:	Ethanol-induced Sedative Behavior: An Assay to Investigate Increased Dopamine Signaling in Caenorhabditis elegans
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Abstract:	Dopamine (DA) signaling affects locomotion, feeding, learning, and memory in C. elegans. Various assays have been developed to study the proteins involved in these behaviors; however, these assays show behavioral output only when there is a drastic change in DA levels. We designed an assay capable of observing behavioral output even with only slight alterations in DA levels. To achieve this, we designed a behavioral paradigm where we combined C. elegans movement with ethanol (EtOH) administration. The behavioral response to alcohol/EtOH and susceptibility to alcohol-use disorders (AUDs) have been linked to DA. Our assay correlates an increase in DA levels due to EtOH and movement obstruction due to a dry surface to a circular sedative behavior, which we designated as EtOH-induced sedative (EIS) behavior. We successfully utilized this assay to assign physiological and behavioral functions to a DA autoreceptor, DOP-2.
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