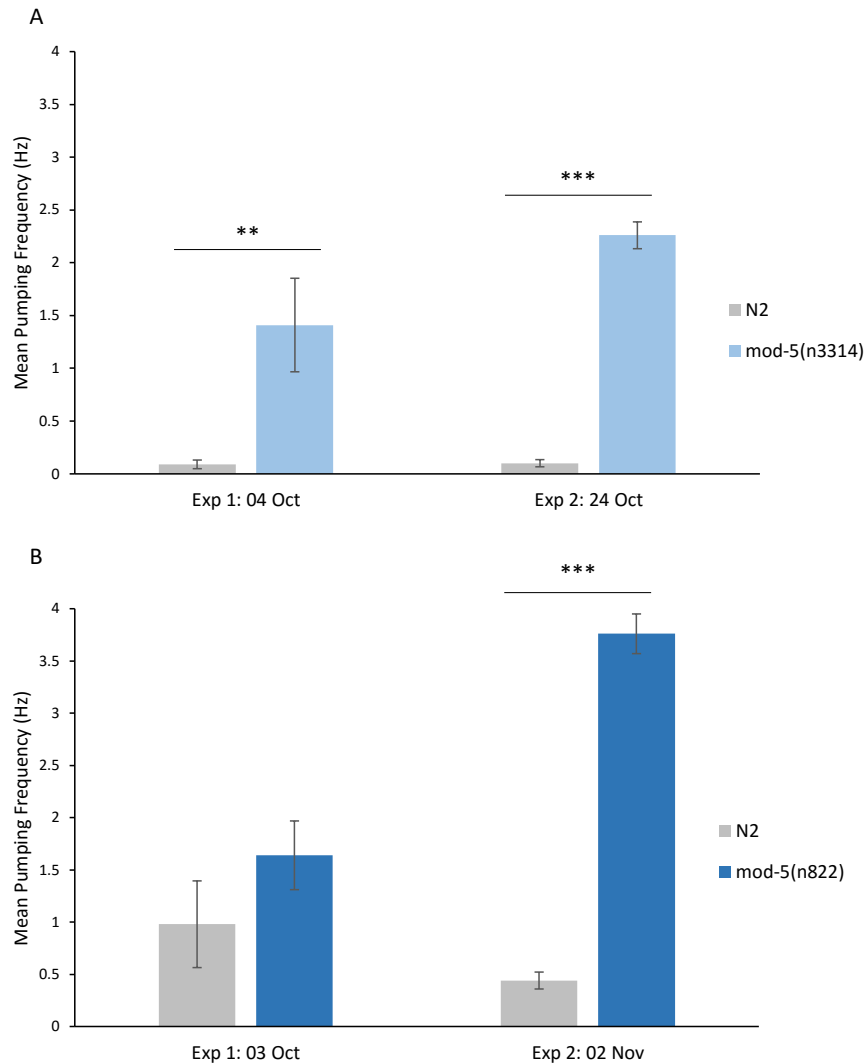


Basal pharyngeal pumping elevated in *C. elegans mod-5* mutants

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Description:

In *C. elegans*, the reuptake of [serotonin \(5-HT\)](#) is facilitated by [mod-5](#), which encodes a [5-HT](#) transporter that is orthologous to a human [5-HT](#) transporter (SLC6A4). [mod-5](#) has been shown to effect both feeding and locomotion in *C. elegans* (Ranganathan et al., 2001; Jafarau et al. 2011). We obtained and analyzed EPG data using a microfluidic device ([NemaMetrix](#)) for [mod-5](#) null mutant strains, [mod-5\(n3314\)](#) (A, Exp 1 n=15; Exp 2 n=32) and [mod-5\(n822\)](#), (B, Exp 1 n=17; Exp 2 n=27) and [N2](#) control worms (A, n=16 and 31; B, n=18 and 27 for Exp 1 and 2, respectively) in M9 saline buffer (2-minute recording duration). Mutations to the *C. elegans* [serotonin](#) reuptake transporter, [mod-5](#), lead to an accumulation of [serotonin](#) at the synaptic cleft, which results in a significant increase in baseline pharyngeal pumping frequency in three out of four experiments (A, [N2](#)= 0.10 ± 0.04 and 0.09 ± 0.03 Hz ; [mod-5\(n3314\)](#)= 1.41 ± 0.44 and 2.26 ± 0.13 Hz; B, [N2](#)= 0.98 ± 0.42 and 0.44 ± 0.08 ; [mod-5\(n822\)](#)= 1.64 ± 0.33 and 3.76 ± 0.19 Hz; ** $p < 0.005$, *** $p < 0.0001$, 2-tailed students t-test).

References

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Jafari G, Xie Y, Kullyev A, Liang B, Sze JY. Regulation of extrasynaptic 5-HT by serotonin reuptake transporter function in 5-HT-absorbing neurons underscores adaptation behavior in *Caenorhabditis elegans*. *J Neurosci*. 2011 Jun 15;31(24):8948-57. doi: 10.1523/JNEUROSCI.1692-11.2011. PubMed PMID: 21677178; PubMed Central PMCID: PMC3153855.

Reagents

Strains: MT8944: [mod-5\(n822\)](#) I; MT9772: [mod-5\(n3314\)](#) I
Control Strain: [N2](#)

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