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Mutations in KCNQ potassium channels cause pharyngeal pumping defects in *C. elegans*

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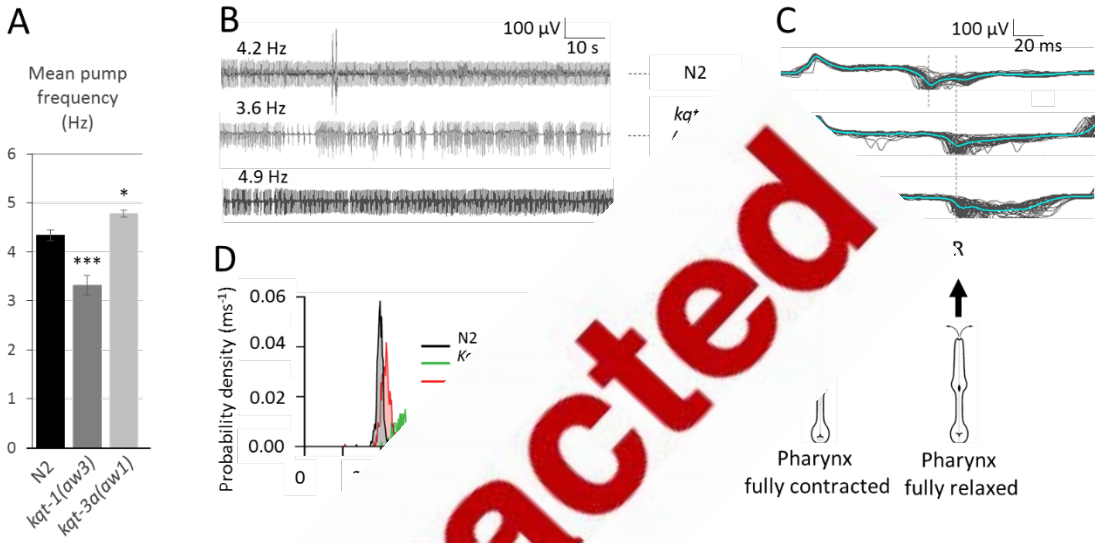
1. NemaMetrix, Inc,. 44 W 7th Ave., Eugene, OR 97401 USA. www.nemametrix.com



Description:

Pumps were stimulat[illegible]d as electropharyngeograms (EPGs) for 2 minutes in a NemaMetrix Scree[illegible]alysis software (NemaMetrix). The null mutant strains *kqt-1(aw3)* and *kqt-3* [illegible]aguan Wei (Wei et al., 2002)

A) Pump freq[illegible]gnificantly lower than in N2s, while *kqt-3(aw1)* worms showed an increase in pu[illegible]1; 1-tailed Mann-Whitney U-test; n = 21-23 worms in each strain).

B) Microfluidic [illegible] pumping pattern in *kqt-1(aw3)* mutants is arrhythmic, with frequent drops in frequency.

C) Overlay of first 50 p[illegible]ngs show that pump duration is higher in *kqt-1(aw3)* and *kqt-3(aw1)* animals than in N2s. Pumps are sh[illegible]ed on E spikes, which occur when the pharynx is fully contracted.

D) Duration histogram illust[illegible]g the probability of occurrence of inter-pump interval (E to E duration) for each mutant strain. Histograms were binned to 4 ms width and normalized to reach an area underneath the curve equal to 1 (duration 100% likelihood to occur). In *kqt-1(aw3)*) animals, the time between two pumps is significantly increased compared to N2s ($p < 0.01$).

References

Wei, A., Yuan, A., Fawcett, G., Butler, A., Davis, T., Xu, S. Y., & Salkoff, L. Efficient isolation of targeted *Caenorhabditis elegans* deletion strains using highly thermostable restriction endonucleases and PCR. *Nucleic Acids Res.* 30, e110 (2002).

Reagents

Molecule: Serotonin
Control Strain: N2

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