E07-09-0982 Liu

Supplementary FigS. 1

VPA slows growth

(A) Representative images of animals 3 or 4 days after hatching on plates containing 6 mM NaCl or 6 mM VPA. White arrowheads indicate larva and black arrowheads indicate adult animals. Scale bars= 1 mm.

(B) VPA retarded growth in a dose dependent manner both 3 and 4 days after hatching, as shown by the lower percentage of adult animals. Li^+ also retarded growth in a dose dependent manner but to a lesser extent. Each data point is an average from three independent experiments with 50-60 animals in each experiment. *** $p < 0.001$, * $p < 0.05$, compared with the data of NaCl at the same concentration.; Student's t-test.

(C and D) RNAi knockdown of MIP synthase decreased animal growth rate 3 days after hatching. White arrowheads indicate larva and black arrowheads indicate adult animals (C). Scale bars=1mm. A summary is given in (D). Each data point represents the mean ±SEM of three independent experiments with 50-60 animals in each experiment. *** $p < 0.001$ Student's t-test.

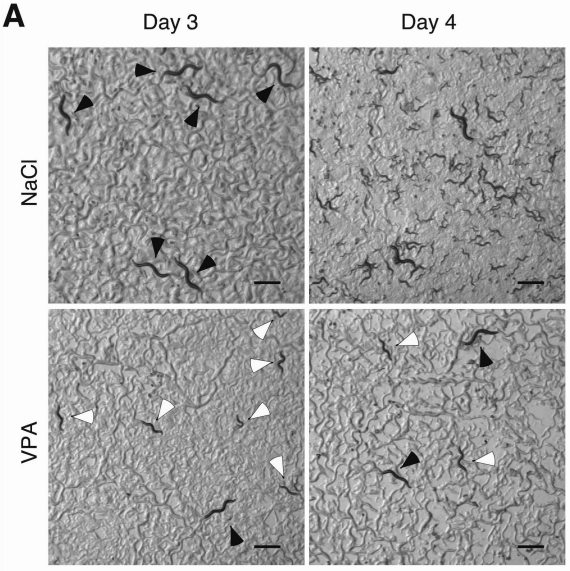
Supplementary FigS. 2

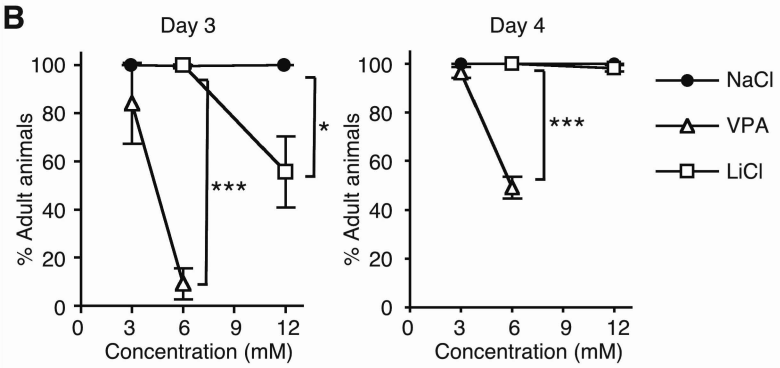
VPA causes the bodywall muscles to become more responsive to ACh. Muscle sensitivity to ACh was measured by determining rates of paralysis of animals exposed to 100 μM of the nicotinic ACh agonist levamisole

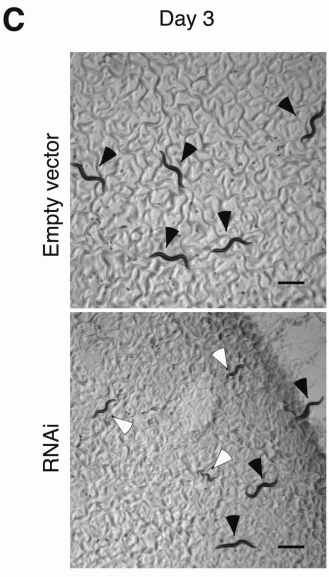
(A) Exposure to 12 mM VPA caused animals to become hypersensitive to levamisole compared to animals exposed to 12 mM NaCl or untreated animals.

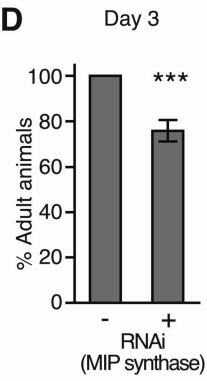
(B) Animals expressing only the non-DAG binding form of the UNC-13 neuromodulator (*unc-13*(*s69*);*UNC-13* (H173K)) are hypersensitive to levamisole, and this is increased further upon exposure to 12 mM VPA.

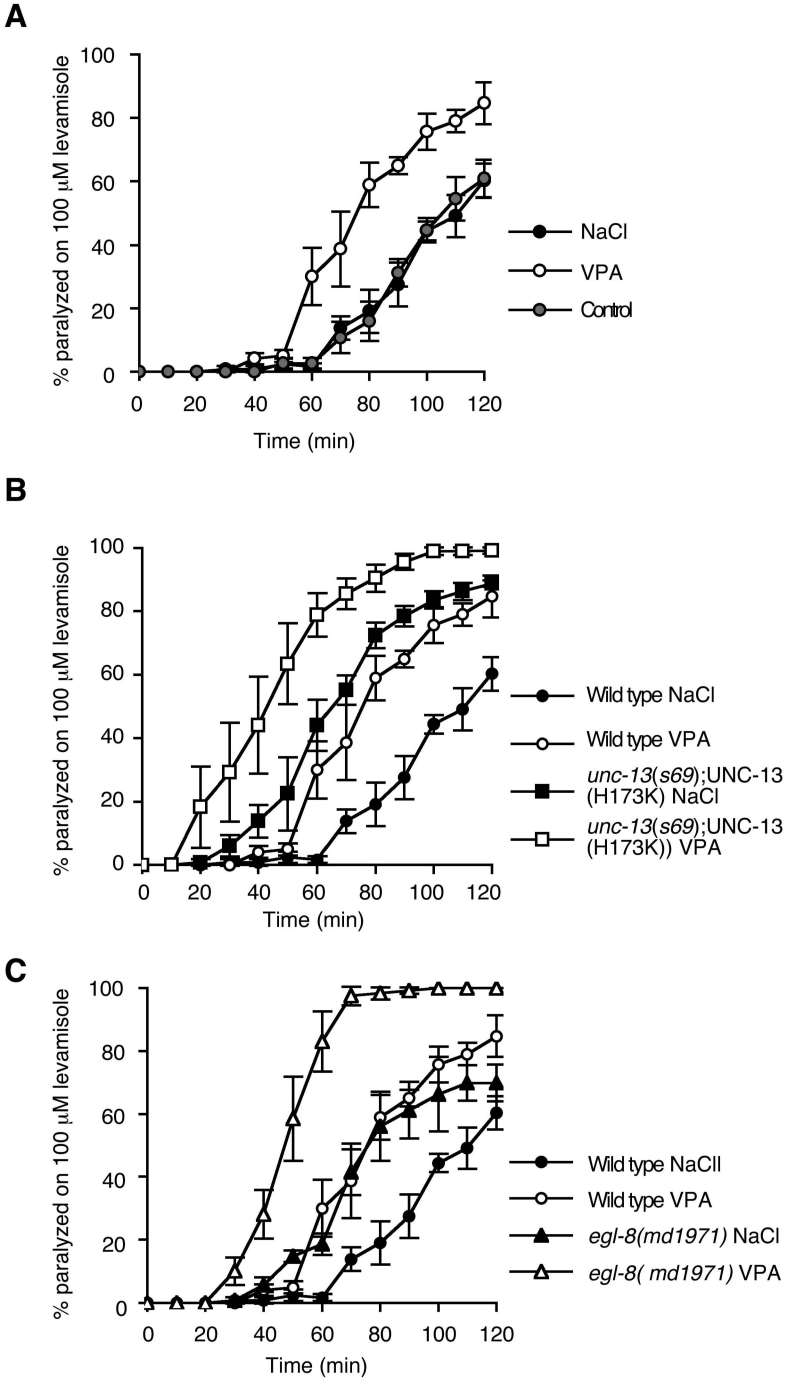
(C) A mutation in the EGL-8 PLCβ (*egl-8(md1971)*) causes animals to be hypersensitive to levamisole, and this is increased further upon exposure to 12 mM VPA.


A
Day 3
Day 4
NaCl
VPA


B
Day 3
Day 4
% Adult animals
Concentration (mM)
NaCl
VPA
LiCl
*
***
***


C
Day 3
Empty vector
RNAi


D
Day 3
% Adult animals
***
RNAi
(MIP synthase)


A
% paralyzed on 100 µM levamisole
Time (min)
NaCl
VPA
Control
B
% paralyzed on 100 µM levamisole
Time (min)
Wild type NaCl
Wild type VPA
unc-13(s69);UNC-13 (H173K) NaCl
unc-13(s69);UNC-13 (H173K)) VPA
C
% paralyzed on 100 µM levamisole
Time (min)
Wild type NaCll
Wild type VPA
egl-8(md1971) NaCl
egl-8(md1971) VPA