

SUPPLEMENTARY MATERIAL

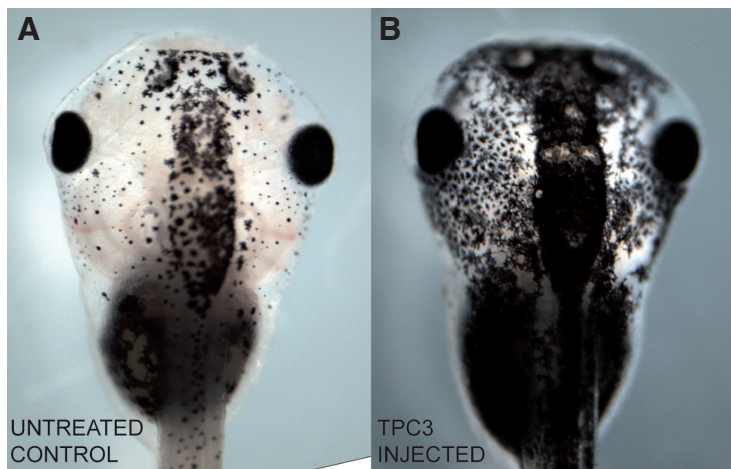
corresponding to:

**Selective depolarization of transmembrane potential alters
muscle patterning and muscle cell localization in embryonic
*Xenopus Laevis***

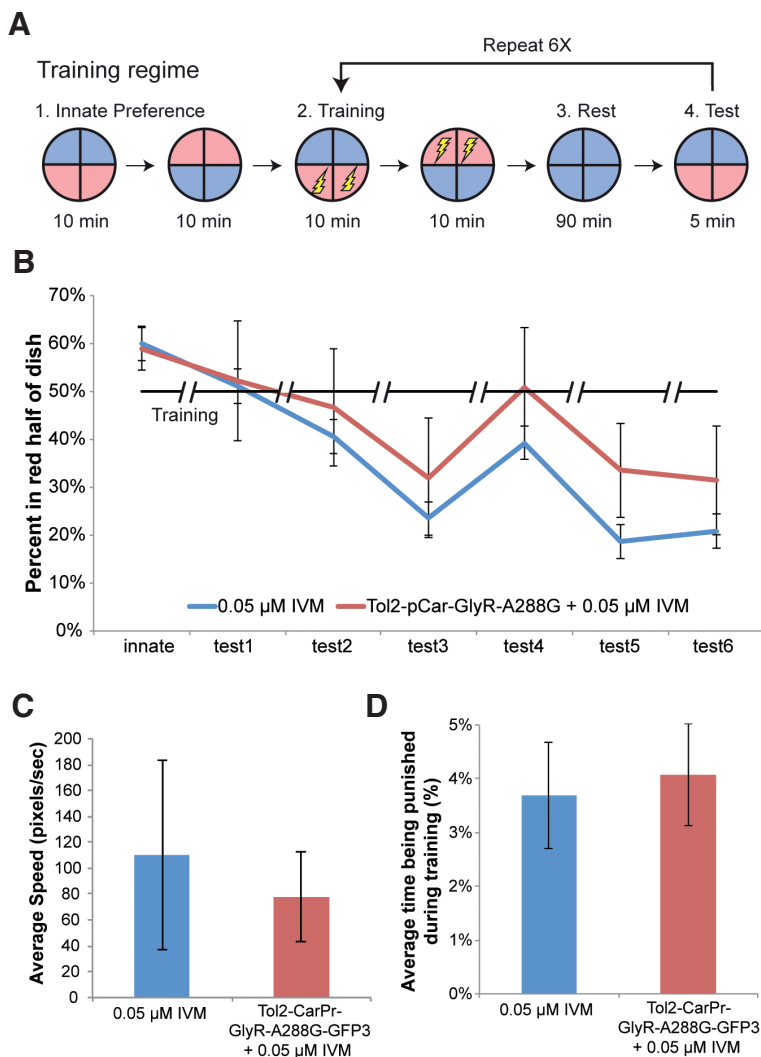
MARIA LOBIKIN, JEAN-FRANÇOIS PARÉ, DAVID L. KAPLAN and MICHAEL LEVIN

***Address correspondence to:** Dr. Michael Levin. Department of Biology, Tufts University, 200 Boston Avenue, Suite 4600, Medford, MA 02155, USA.
Tel: +1-(617)-627-6161. Fax: +1-(617)-627-6121. E-mail: michael.levin@tufts.edu

Full text for this paper is available at: <http://dx.doi.org/10.1387/ijdb.150198ml>



Supplementary Fig. S1. Injection of depolarizing TPC3 channel induces embryo-wide hyperpigmentation. Embryos were either treated with $1\mu\text{M}$ ivermectin at NF stage 10 or injected with the depolarizing sodium ion channel, TPC3 into one cell of a two-cell stage (NF stage 2) embryo. Treated embryos were incubated to allow development to free-swimming tadpole stage and scored for hyperpigmentation. Depolarizing injections resulted in observation of the hyperpigmentation phenotype (B), compared to control phenotype (A).



Supplementary Fig. S2. Tadpoles with mislocalized muscle cells in neural regions can learn associated stimulus avoidance in an automated assay. Embryos that were either injected with Tol2-CarPr-GlyR-A288G-GFP3 and treated with $0.05\mu\text{M}$ ivermectin at NF stage 10 or uninjected and treated with $0.05\mu\text{M}$ ivermectin were placed individually into the behavior apparatus, and the automated software executed a training cycle (A). Prior to training, all animals displayed a slight preference for the red side of the dish; however, by two trainings the uninjected animals displayed a significant aversion to red light (B). Injected and treated embryos displayed a significant aversion to red light following three trainings. There was no significant difference in average speed in both treatments (C). During the training periods, when tadpoles are punished for occupying red halves of the arena, embryos from both treatments spent similar time in punishing areas (D). Error bars indicate ± 1 S.E.M. $N=12$ for both treatment types.