



Figure S4. Behaviour after anti-Pdxdc1 infusion.

No significant differences in Y-maze activity were seen in number of arm entries (A) or in alternation scores (B) between any of the treatment groups (one-way ANOVA; $F_{1.403(3,62)} p=0.2504$) or for alternation score (one-way ANOVA; $F_{0.4111(3,62)} p=0.7456$) (Figure 4.7 in the paper). This suggests that infection of dentate gyrus had no effect on either measure, nor did knockdown of Pdxdc1 (sham $n=20$, -shRNA $n=10$, V2LMM $n=18$, V3LMM $n=18$).

Latency to find the platform in the Morris Water Maze during training was reduced slightly from D1 to D5 (C), and significant differences between V2LMM and sham ($*p<0.05$) and -shRNA ($*p<0.05$) groups seen on D5. Values are mean \pm SEM. Two-way ANOVA for interactions between day of training and treatment groups showed that only day of training showed any significant effect on outcome ($F_{9.98}$, $DF_n=4$, $DF_d=48$, $p<0.0001$) accounting for $\sim 25\%$ of the total variation in results. There was no significant effect of treatment or interaction of day of training and treatment. For further post hoc analysis, one-way ANOVAs were conducted for each day of the trial to compare the four treatment groups with no significant difference between groups on days 1, 2, 3, or 4. However day 5 showed a significant difference between groups for latency ($F_{5.510(3,12)} p=0.0130$) with Tukey's HSD showing significant differences in latency between sham and V2LMM ($p<0.05$) and between -shRNA and V2LMM ($p<0.05$).

(D) shows shows time spent in each quadrant on the probe day, with no significant difference between groups for time spent in the target quadrant (quadrant 2).