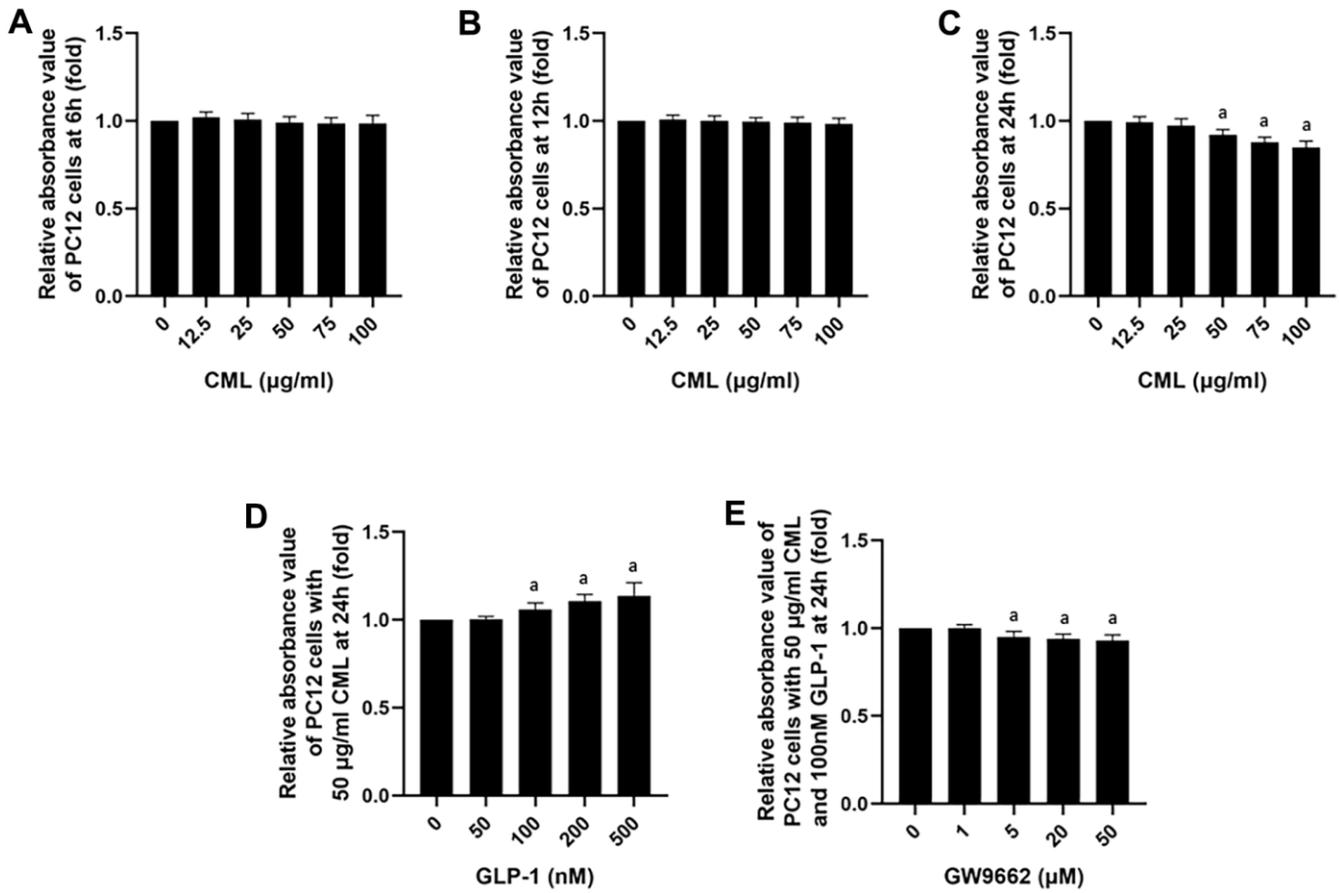
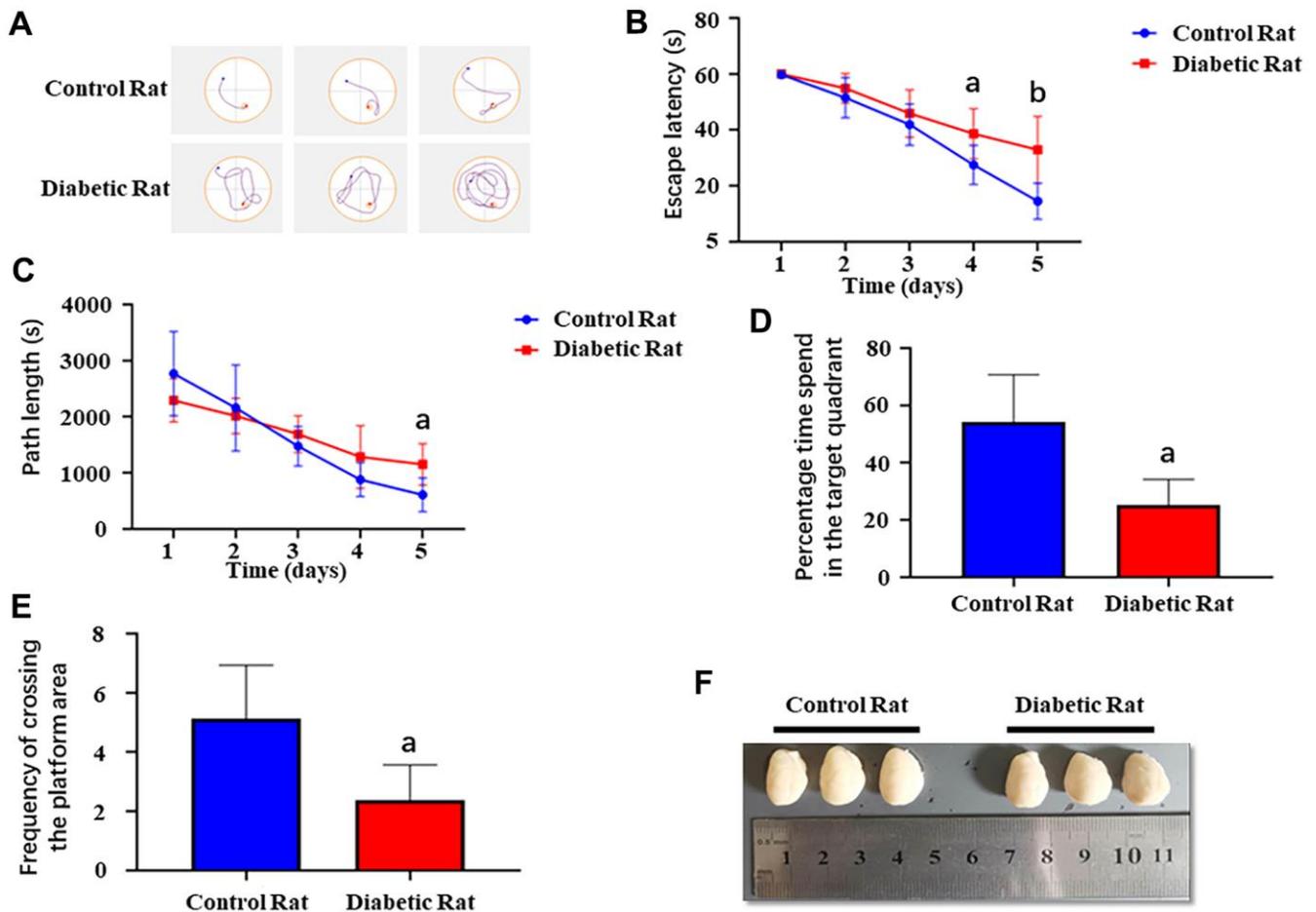


**SUPPLEMENTARY FIGURES**



**Supplementary Figure 1. PC12 cells viability with different treatments.** Results showed in (A, B) did not show lower cells viability in PC12 cells with CML at than those without CML at 6h or 12h. “a” in (C) showed decreased cells viability in PC12 cells with CML (50, 75, or 100 µg/ml) at 24h, compared those without CML (all  $P < 0.05$ ). “a” in (D) showed higher cells viability of PC12 cells with 100, 200, or 500 nM/ml GLP-1 than those without GLP-1 (all  $P < 0.05$ ). “a” in (E) showed lower cells viability of PC12 cells (treated by 50ug/ml CML and 100 nM GLP-1) with 5, 10, 20, 50 uM GW9662 than those without GW9662 (all  $P < 0.05$ ).



**Supplementary Figure 2. Cognitive function was impaired in diabetic rats.** In (A), we showed the swimming pathways of rats found the platform. “a” and “b” of (B) showed different escape latency at the 4<sup>th</sup> day and the 5<sup>th</sup> day respectively. “a” of (C) showed different path length at the 5<sup>th</sup> day. “a” of (D, E) showed different percentage of time spent in the target quadrant and frequency of crossing platform area between diabetic rats and control rats (all  $P < 0.05$ ). In (F), we did not find significant difference between brain sizes of diabetic rats and control rats. Data are represented as mean  $\pm$  SD; n=8 per group for results of water maze.