



**Supplementary Figure 8. Activity-dependent dynamics of SINE elements**

(A) t-SNE plots of FOS+ and FOS- DG, CA1, and VIP nuclei given passenger SINE element expression. (B) Delta Ct values after qRT-PCR for the corresponding primers from RNA extracted from mice either exposed to home cage or injected with pentylenetetrazol (PTZ). \* = p-value < 0.05. (C) Northern blot using a B2 probe (top) or cyclophilin probe as negative control (bottom). The canonical 180 bp band of B2 is noted. HC = home cage. Boxplot quantification of 180 bp band

normalized by the cyclophilin band. (D) Expression of the non-coding RNA, BC1. Each violin represents a different condition with each dot equivalent to a nucleus. The violins are in the following order: FOS- (N) home cage (HC), N after 1hr, FOS low (L) HC, L 1hr, FOS+ (F) 1hr, N 4hr, and N 5hr.