Figure	Sample size	Statistical test	*p* Values
1H；1I	GCaMP6:7	Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$
1M; 1N	GCaMP6:8	Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$
2C；2D	GCaMP6:7	Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$
2G；2H	GCaMP6:6	Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$
3C；3D cue	GCaMP6:9	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.0059$ $p = 0.0005$ $p = 0.0041$
3D quinine	GCaMP6:9	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.7835$ $p = 0.5414$ $p = 0.3948$
3G；3H cue	GCaMP6:9	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p < 0.0001$ $p = 0.0048$ $p = 0.0019$
3H foot-shock	GCaMP6:9	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.1846$ $p = 0.4436$ $p = 0.0905$
3K；3L cue	GCaMP6:9	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.4036$ $p = 0.0318$ $p = 0.0479$ $p = 0.0359$ $p = 0.0429$
3L omission	GCaMP6:9	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.7141$ $p > 0.9999$ $p = 0.9988$ $p = 0.9997$ $p > 0.9999$
4C；4D	GCaMP6:6	Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$
4F；4G	GCaMP6:6	Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$
5B; 5D		Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$
5E; 5F	GCaMP6: 9	Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$
5G Type Ⅱ	GCaMP6: 9	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.0166$ $p = 0.0002$ $p < 0.0001$
5G Type Ⅰ	GCaMP6: 9	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.0300$ $p = 0.0044$ $p < 0.0001$
5H Type Ⅱ	GCaMP6: 9	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.0792$ $p = 0.0009$ $p = 0.0002$
5H Type Ⅰ	GCaMP6: 9	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.0681$ $p = 0.0009$ $p = 0.0003$
5I Type Ⅱ	GCaMP6: 9	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.2963$ $p = 0.0183$ $p = 0.0002$
5I Type Ⅰ	GCaMP6: 9	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.9795$ $p = 0.8607$ $p = 0.9303$
6A-6D		Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$
6E-6H	GCaMP6: 7	Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$
7D		Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$
7F; 7G	Chr2: 12; 70 neurons	Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$

Fig 1 – S1A; S1B	EmGFP:5	Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$
Fig 2 – S1C; S1D	EmGFP:4	Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$
Fig 3 – S1B; footshock	GCaMP6:5	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.0287$ $p = 0.0069$ $p = 0.0146$
Fig 3 – S1D; extinction effect	GCaMP6:5	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.9914$ $p = 0.7429$ $p = 0.0943$ $p = 0.0225$ $p = 0.0017$
Fig 4 – S1; after defeat	GCaMP6:6	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.0941$ $p = 0.0772$ $p = 0.0040$ $p = 0.0041$
Fig 4 – S1; before defeat	GCaMP6:6	Dunnett's multiple comparisons test with Geisser-Greenhouse correction; Alpha level: 0.05	$p = 0.2389$ $p = 0.0886$ $p = 0.0567$ $p = 0.2675$
Fig 4 – S1; inter-groups	GCaMP6:6	t-test corrected for multiple comparisons using the Holm-Sidak method; Alpha level: 0.05	$p = 0.0007$ $p = 0.0103$ $p = 0.0623$ $p = 0.4079$ $p = 0.0584$
Fig 5 – S1D	GCaMP6:6	Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$
Fig 5 – S2D	GCaMP6:7		
Fig 7 – S1C	Chr2: 12; 70 neurons	Multivariate Permutation test；1000 permutations；Alpha level: 0.05	$p < 0.05$