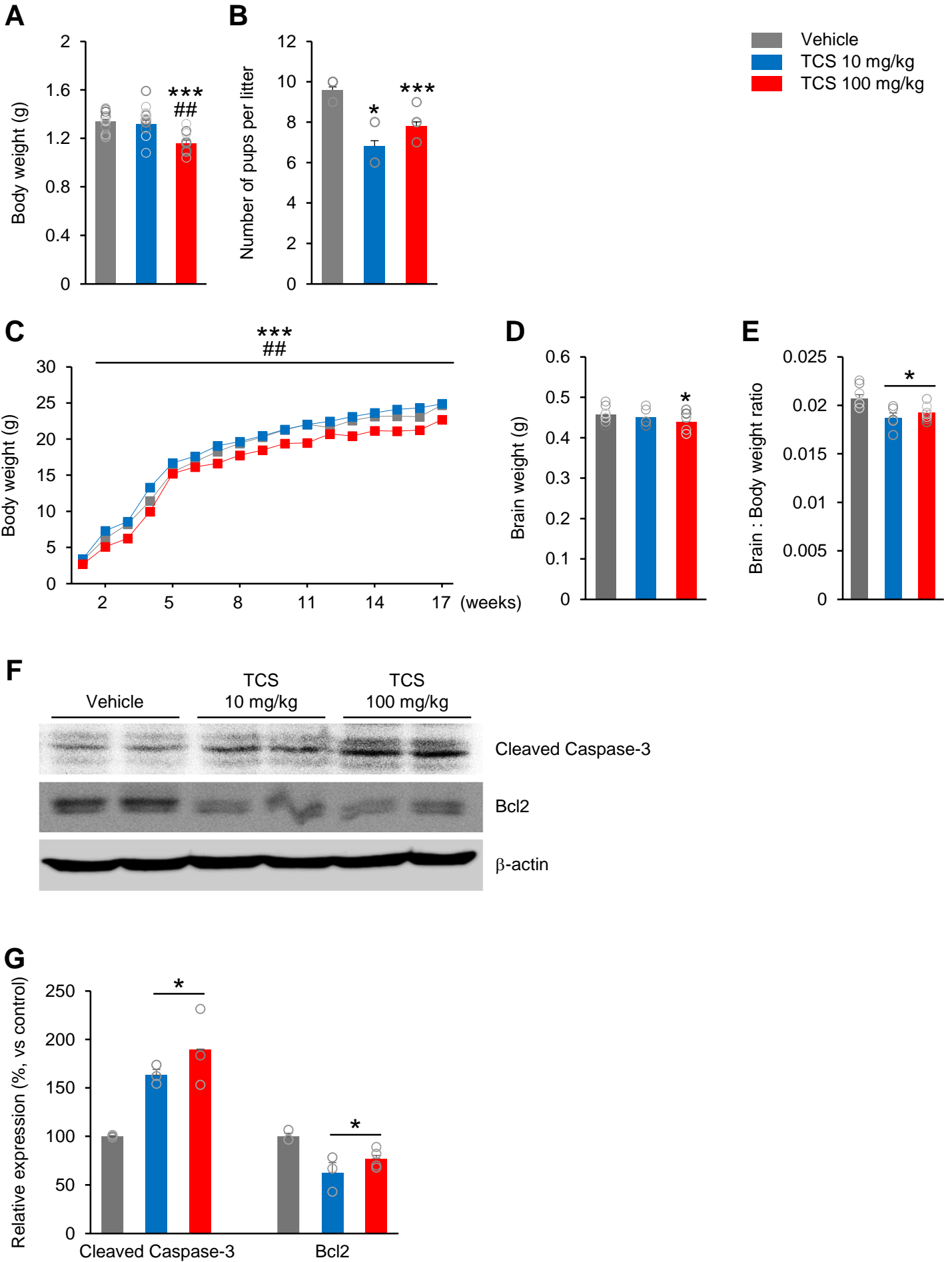
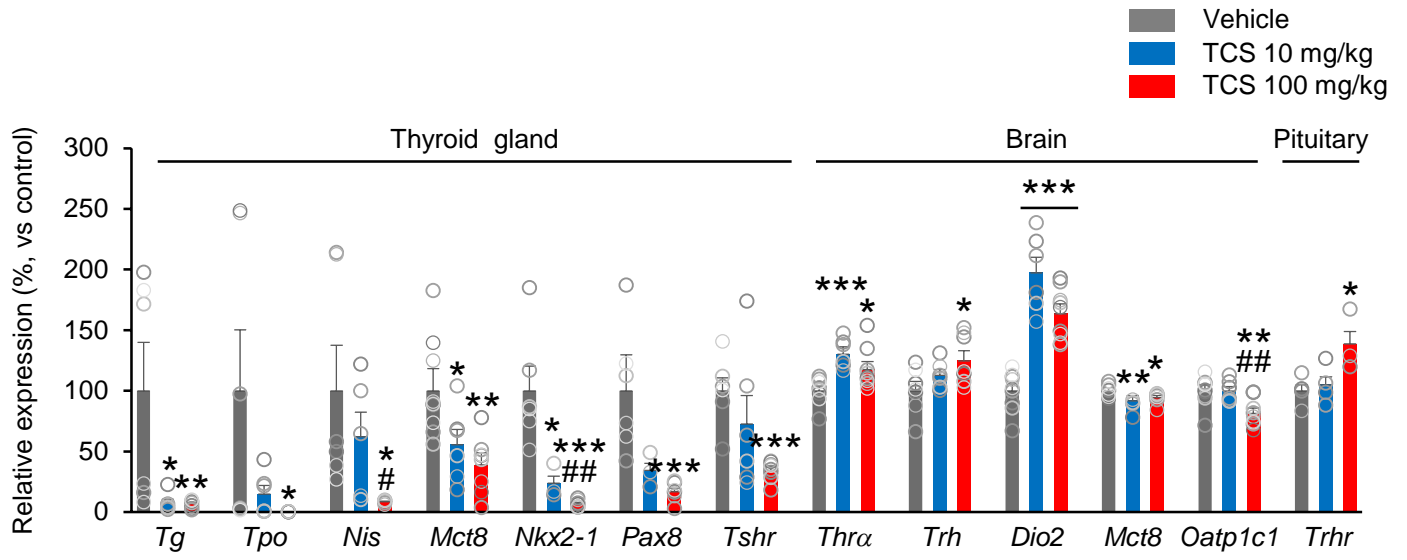


Supplementary figure-1



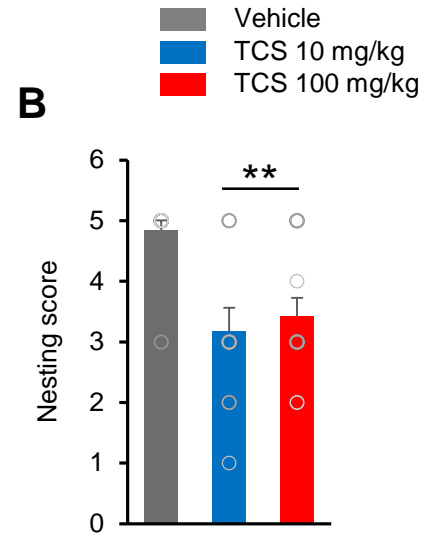
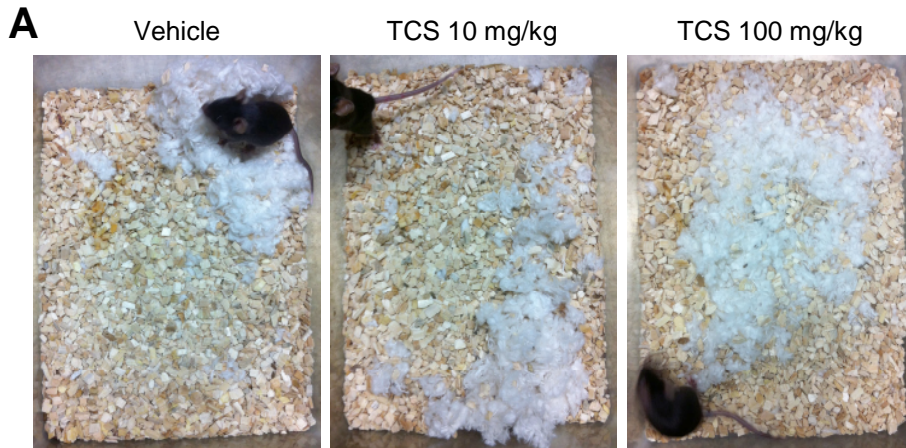
Supplementary figure 1. Impair of TCS on the growth of offspring mice. **(A)** The body weight of offspring mice at PND1. At dose 100 mg/kg, TCS-exposure showed significantly decreased the birth weight compare to vehicle group. There was no change in TCS 10 mg/kg group and vehicle group. **(B)** The numbers of per litter were significantly decreased in the TCS-treated groups compared to the vehicle group. **(C)** The body weight of offspring mice was weekly assessed. TCS 100 mg/kg group delayed the offspring growth and development compared to vehicle group. **(D)** Brain weight of offspring mice at PND 119. There was significantly decreased in the brain weight in TCS 100 mg/kg group compare to vehicle. **(E)** Ratio of brain weight to the whole bodyweight at PND 119. TCS-groups showed significant decreased in the ratio of brain weight to whole body weight compared to vehicle group. Total brain caspase-3 and Bcl2 protein content of adult offspring mice were analyzed through Western blotting, using β -actin as loading control. **(F)** Representation of western blots. **(G)** Quantification of **F**. There were markedly higher in the protein level of cleaved caspase-3 in TCS 100 mg/kg group compared to the TCS 10 and vehicle groups. The expressions of Bcl2 protein were significantly lower in both TCS-treated groups. n= 10 mice (4 male, 6 female) for vehicle, 6 mice (4 male, 2 female) for TCS 10 mg/kg, 9 mice (5 male, 4 female) for TCS 100 mg/kg). Data represent mean \pm SEM. Data represent mean \pm SEM. Statistical significance was determined by one-way ANOVA with Bonferroni correction. * $p < 0.05$ vs. vehicle, * $p < 0.01$ vs. vehicle, *** $p < 0.001$ vs. vehicle, ## $p < 0.01$ TCS 10 mg/kg vs. TCS 100 mg/kg. Treatments: corn oil; vehicle, TCS; 10 mg/kg/day, TCS; 100 mg/kg.

Supplementary figure-2



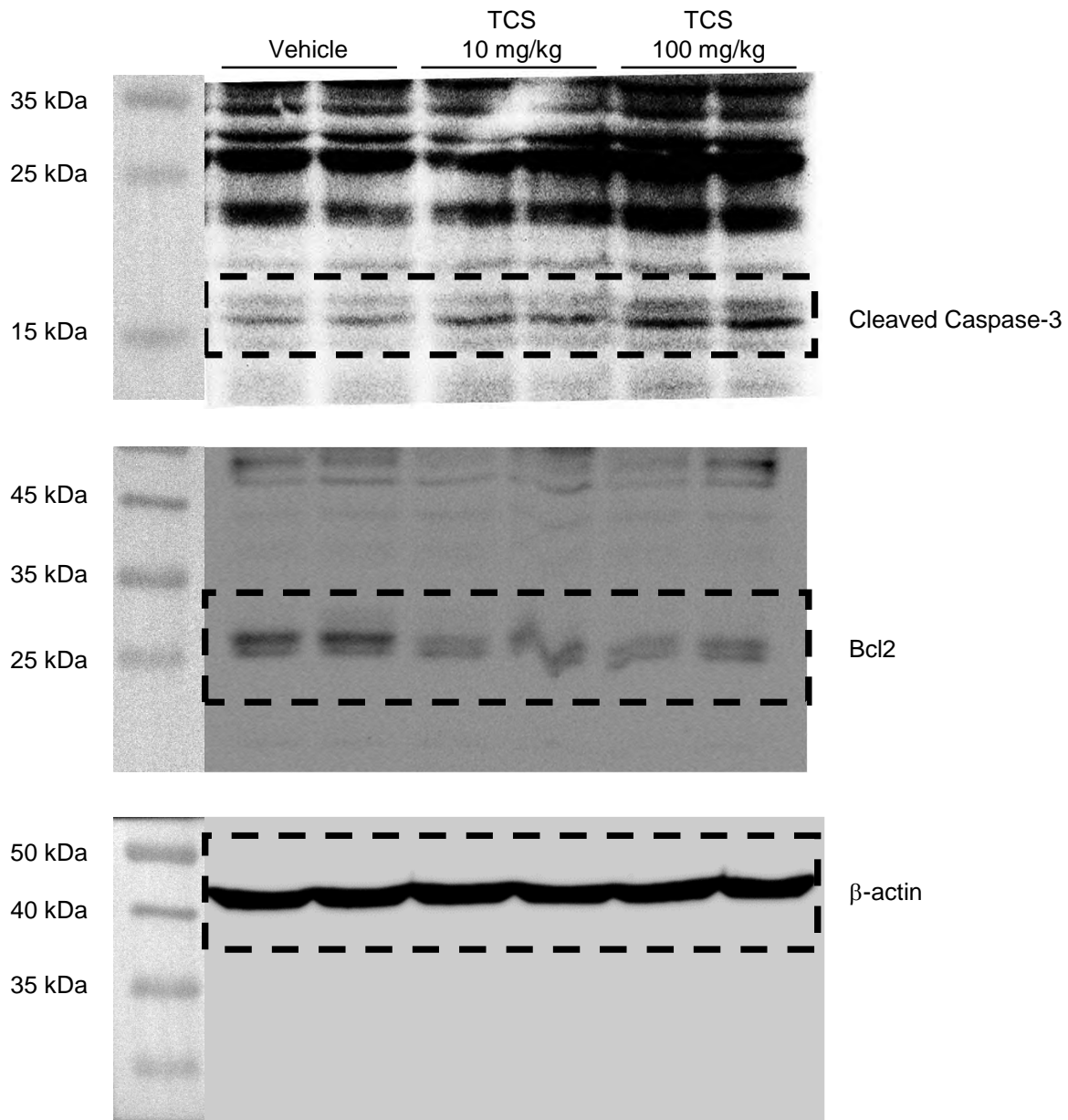
Supplementary figure 2. Impair of TCS on thyroid development and function in mice. Gene expression assessed by realtime quantitative PCR and normalized to *GAPDH* mRNA content in thyroids, brains and pituitary of offspring mice. Thyroid expression of *Tg*, *Tpo*, *Nis*, *Mct8*, *Nkx2-1*, *Pax8* and *Tshr* mRNA levels were reduced in TCS-treated groups compared to vehicle group. Brain *Thra*, *Trh*, and *Dio2* mRNA levels were higher in TCS-treated groups compared to vehicle group. Whereas, brain *Mct8* and *Oapt1c1* mRNA levels were lower in TCS-treated group compared to vehicle group (n= 10 mice (4 male, 6 female) for vehicle, 6 mice (4 male, 2 female) for TCS 10 mg/kg, 9 mice (5 male, 4 female) for TCS 100 mg/kg). Pituitary *Trhr* mRNA content was increased in TCS 100 mg/kg group compared to vehicle group. n= 5 mice (3 male, 2 female) for vehicle, 4 mice (2 male, 2 female) for TCS 10 mg/kg, 5 mice (3 male, 3 female) for TCS 100 mg/kg. Data represent mean \pm SEM. Data represent mean \pm SEM. Statistical significance was determined by one-way ANOVA with Bonferroni correction. * p < 0.05 vs. vehicle, * p < 0.01 vs. vehicle, *** p < 0.001 vs. vehicle. # p < 0.05 TCS 10 mg/kg vs. TCS 100 mg/kg, ## p < 0.01 TCS 10 mg/kg vs. TCS 100 mg/kg. Treatments: corn oil; vehicle, TCS; 10 mg/kg/day, TCS; 100 mg/kg.

Supplementary figure-3



Supplementary figure 3. Impair of TCS on nesting-building behavior in offspring mice. **(A)** Representative images showed the built nest after 12 h after introduction of nesting material. **(B)** Nesting score (mean \pm s.e.m.) represents the amount of nesting material used and shape of the nest during the 12-h test period. Score 1 represents an almost untouched nestlet, for score 3 >50% was shredded but not into a specific nest shape, and score 5 represents an almost perfect nest where >90% of the nestlet was used to build the nest as a crater and the walls were higher than the mouse body height. Data represent mean \pm SEM. Data represent mean \pm SEM. Statistical significance was determined by one-way ANOVA with Bonferroni correction. n= 14 mice (8 male, 6 female) for vehicle, 11 mice (8 male, 3 female) for TCS 10 mg/kg, 13 mice (8 male, 5 female) for TCS 100 mg/kg. ** $p < 0.01$ vs. vehicle. Treatments: corn oil; vehicle, TCS; 10 mg/kg/day, TCS; 100 mg/kg.

Supplementary figure-4



Supplementary figure 4. Western blot images. Western blot images for supplementary figure 1E.

44 **Supplementary Table 1.** Primers used for gene expression analysis through Real-Time PCR.

	Forward	Reverse	45
<i>Tg</i>	ACAGCATTGAAAGGGCGGTA	ATACAAGGTGGTGTCCGCTG	45
<i>Tpo</i>	GCAGGTGGACACATGCTGATA	CTGGATCCACTGCAGGTTC	
<i>Nis</i>	CCAGTACCTAGAACTGCGCTT	ATGTCCAACCCGGTCACTTG	
<i>Mct8</i>	CTTCGGCTGGATAGTGGTGT	GACCCATGCTGCTTGGAAC	
<i>Nkx2-1</i>	AACAGAAGTACCTGTCGGCG	CTTAGCCTGGCGCTTCATCT	
<i>Pax8</i>	ACTCGATCAGATCCGGCCAT	AATATCACAGGGCCTCACGC	
<i>Tshr</i>	CAAAGCTGGATGCTGTTTACCT	GATTTGTGCCTGGTGGAAATCA	
<i>Thra</i>	AAGCTGCTGATGAAGGAGAGAG	CCTGAACAACATGCATTCCGA	
<i>Trh</i>	TTGGTGCTGCCTTAGATTCCT	GGCTCCCACTTCTCCCAAAT	
<i>Dio2</i>	AACCAAGAGGACCGATGTGC	CGTTCAAAGGCTACCCCGTA	
<i>Oatp1c1</i>	TGTAGGGGATTCCAGCTCCT	GTCTGCACACACCCGATGTA	
<i>Trhr</i>	CTATGGACATGCTGGCTGCT	CGATGTACCTCTCCACAGTGA	
<i>GAPDH</i>	AAGGTCATCCCAGAGCTGAA	AGGAGACAACCTGGTCCTCA	

47 **Supplementary Table 2.** Summary of behavior statistic data

Test	Duration	Measurement	Number of animals	Values	Statistical test
Morris water maze	1 min	Escape latency (sec)	VE = 18 TCS10 = 11 TCS100 = 17	Day1 $VE = 36.79 \pm 2.63$ $TCS10 = 47.39 \pm 2.76$ $TCS100 = 49.51 \pm 2.27$	One-way ANOVA with Bonferroni correction test
				Day2 $VE = 13.07 \pm 1.08$ $TCS10 = 31.70 \pm 2.74$ $TCS100 = 17.93 \pm 1.88$	
				Day3 $VE = 8.64 \pm 0.73$ $TCS10 = 16.66 \pm 2.31$ $TCS100 = 15.32 \pm 1.90$	
				Day4 $VE = 6.47 \pm 0.55$ $TCS10 = 11.64 \pm 1.67$ $TCS100 = 9.72 \pm 1.09$	
				Day5 $VE = 7.10 \pm 0.34$ $TCS10 = 11.59 \pm 1.54$ $TCS100 = 9.54 \pm 0.82$	
				Day6 $VE = 6.14 \pm 0.45$ $TCS10 = 8.55 \pm 0.87$ $TCS100 = 8.47 \pm 0.86$	
				Day7 $VE = 5.22 \pm 0.44$ $TCS10 = 8.59 \pm 0.72$ $TCS100 = 6.66 \pm 0.40$	
				Day8 $VE = 6.47 \pm 0.49$ $TCS10 = 8.66 \pm 0.83$ $TCS100 = 9.71 \pm 1.39$	
				Day9 $VE = 3.57 \pm 0.30$ $TCS10 = 8.07 \pm 0.98$ $TCS100 = 5.87 \pm 0.64$	
				Platform crossing $VE = 6.06 \pm 0.45$ $TCS10 = 4.45 \pm 0.45$ $TCS100 = 4.70 \pm 0.32$	
				Distance move (cm) $VE = 730.64 \pm 25.90$ $TCS10 = 681.77 \pm 22.86$ $TCS100 = 713.50 \pm 19.54$	
				Velocity (cm/s) $VE = 12.17 \pm 0.42$ $TCS10 = 11.32 \pm 0.37$ $TCS100 = 11.94 \pm 0.31$	
				Novel object recognition	

Social behavior	10 min	Time spent in chamber (sec)	VE = 18 TCS10 = 11 TCS100 = 17	Sociability	VE; Empty = 153.83 ± 5.59 VE; Stranger I = 274.15 ± 8.67 TCS10; Empty = 186.19 ± 11.16 TCS10; Stranger I = 237.18 ± 16.23 TCS100; Empty = 151.51 ± 7.40 TCS100; Stranger I = 251.19 ± 13.90	Two-tailed Student's <i>t</i> test
				Social novelty	VE; Stranger I = 149.92 ± 14.48 VE; Stranger II = 220.07 ± 15.36 TCS10; Stranger I = 207.47 ± 11.56 TCS10; Stranger II = 192.23 ± 19.74 TCS100; Stranger I = 183.92 ± 6.94 TCS100; Stranger II = 212.21 ± 13.12	
Open field	5 min	Time in center (sec)	VE = 18 TCS10 = 11 TCS100 = 17	VE = 14.27 ± 2.17 TCS10 = 13.89 ± 2.95 TCS100 = 7.22 ± 1.17	One-way ANOVA with Bonferroni correction test	
		Number of entries into center		VE = 11.00 ± 0.82 TCS10 = 12.90 ± 1.63 TCS100 = 5.88 ± 0.64		
Forced swim	5 min	Immobility time (sec)	VE = 18 TCS10 = 11 TCS100 = 17	VE = 188.66 ± 11.08 TCS10 = 189.05 ± 6.95 TCS100 = 191.19 ± 7.92	One-way ANOVA with Bonferroni correction test	
Tail suspension	5 min	Immobility time (sec)	VE = 18 TCS10 = 11 TCS100 = 17	VE = 77.56 ± 11.22 TCS10 = 60.21 ± 8.59 TCS100 = 78.78 ± 9.49	One-way ANOVA with Bonferroni correction test	
Nesting behavior	12 hour	Nesting score	VE = 14 TCS10 = 11 TCS100 = 13	VE = 4.64 ± 0.27 TCS10 = 3.18 ± 0.38 TCS100 = 3.54 ± 0.33	One-way ANOVA with Bonferroni correction test	

VE: Vehicle; TCS10: TCS 10 mg/kg/day; TCS100: TCS 100 mg/kg/day