

Test	Sample Size	Statistical test	Values
wild-type, MNK1^{KO}, MNK2^{KO}			
Social Habituation test	<i>females:</i> wild-type=10 MNK1 ^{KO} =8 MNK2 ^{KO} =12 <i>males:</i> wild-type=7 MNK1 ^{KO} =6 MNK2 ^{KO} =5	Three-way Repeated Measures ANOVA	Genotype: $F_{(2, 42)}=0.28$, $P=0.760$ Sex: $F_{(1, 42)}=1.19$, $P=0.2820$ genotype x Sex $F_{(2, 42)}=1.63$, $P=0.2080$ trials: $F_{(3.35, 140.79)}=81.16$, $P<0.0001$ genotype x trials: $F_{(6.7, 140.79)}=1.887$, $P=0.0820$ Sex x trials $F_{(3.35, 140.79)}=0.86$, $P=0.4720$ Sex x trials x genotype $F_{(6.7, 140.79)}=0.67$, $P=0.6880$
Social recognition index	<i>females:</i> wild-type=10 MNK1 ^{KO} =8 MNK2 ^{KO} =12 <i>males:</i> wild-type=7 MNK1 ^{KO} =6 MNK2 ^{KO} =5	Two-way ANOVA, Tukey's post-hoc test for multiple comparisons	Interaction: $F_{(2, 42)} = 0.2222$, $P=0.8017$ Sex: $F_{(1, 42)} = 0.2822$, $P=0.5980$ Genotype: $F_{(2, 42)} = 6.141$, $P=0.0046$ wild-type vs MNK1 ^{KO} : $P= 0.0060$ wild-type vs MNK2 ^{KO} : $P= 0.9260$ MNK1 ^{KO} vs MNK2 ^{KO} : $P = 0.0209$
Social olfaction	<i>females:</i> wild-type=10 MNK1 ^{KO} =8 MNK2 ^{KO} =12 <i>males:</i> wild-type=7 MNK1 ^{KO} =7 MNK2 ^{KO} =5	Three-way Repeated Measures ANOVA	Genotype: $F_{(2, 43)} =2.48$, $P=0.0950$ Sex: $F_{(1, 43)} =2.23$, $P=0.1430$ genotype x sex: $F_{(2, 42)} =2.06$, $P=0.139$ trials: $F_{(3.87, 166.45)} =42.84$, $P<0.0001$ genotype x trials: $F_{(7.74, 166.45)} =1.47$, $P=0.175$ Sex x trials: $F_{(3.87, 166.45)} =0.58$, $P=0.669$ Sex x trials x genotype: $F_{(7.74, 166.45)} =1.62$, $P=0.125$
Object habituation test	<i>females:</i> wild-type=10 MNK1 ^{KO} =8 MNK2 ^{KO} =12 <i>males:</i> wild-type=7 MNK1 ^{KO} =7 MNK2 ^{KO} =5	Three-way Repeated Measures ANOVA	Genotype: $F_{(2, 43)} =9.80$, $P<0.0001$ Sex: $F_{(1, 43)} =0.54$, $P=0.465$ genotype x sex: $F_{(2, 43)} =1.74$, $P=0.188$ trials: $F_{(2.43, 104.6)} =34.96$, $P<0.0001$ genotype x trials: $F_{(4.86, 104.6)} =5.89$, $P<0.0001$ Sex x trials: $F_{(2.43, 104.6)} =0.83$, $P=0.461$ Sex x trials x genotype: $F_{(4.86, 104.6)} =0.61$, $P=0.689$
Object RI	<i>females:</i> wild-type=10 MNK1 ^{KO} =8 MNK2 ^{KO} =12	Two-way ANOVA, Tukey's post-hoc test for multiple comparisons	Interaction: $F_{(2, 43)} = 0.9540$, $P=0.3932$ Sex: $F_{(1, 43)} = 0.6882$, $P=0.4114$ Genotype: $F_{(2, 43)} = 14.51$, $P<0.0001$

	<p><i>males:</i> wild-type=7 MNK1^{KO}=7 MNK2^{KO}=5</p>		<p>Wild-type vs MNK1^{KO} : P=0.0221 Wild-type vs MNK2^{KO} : P=0.0211 MNK1^{KO} vs MNK2^{KO} : P<0.0001</p>
NOR	<p><i>females:</i> wild-type=10 MNK1^{KO}=8 MNK2^{KO}=12</p> <p><i>males:</i> wild-type=7 MNK1^{KO}=7 MNK2^{KO}=5</p>	Three-way Repeated Measures ANOVA, Bonferroni's post-hoc test for multiple comparisons	<p>Genotype: $F_{(2, 43)} = 11.66$, $P < 0.0001$ Sex: $F_{(1, 43)} = 0.51$, $P = 0.479$ Novelty: $F_{(1, 43)} = 21.05$, $P < 0.0001$ genotype x sex: $F_{(2, 43)} = 3.23$, $P = 0.049$ genotype x novelty: $F_{(2, 43)} = 4.62$, $P = 0.015$ Sex x novelty: $F_{(1, 43)} = 0.70$, $P = 0.409$ Sex x novelty x genotype: $F_{(2, 43)} = 0.52$, $P = 0.596$</p> <p><u>Post-hoc: Novelty x genotype</u> <i>Familiar vs novel object</i> Wild-type: $P = 0.004$ MNK1^{KO}: $P = 0.772$ MNK2^{KO}: $P = 0.003$</p> <p><u>Post-hoc: Novelty x sex</u> <i>female</i> Wild-type vs MNK1^{KO} : $P = 0.0056$ Wild-type vs MNK2^{KO} : $P = 0.056$ MNK1^{KO} vs MNK2^{KO} : $P < 0.0001$</p> <p><i>male</i> Wild-type vs MNK1^{KO} : $P = 0.158$ Wild-type vs MNK2^{KO} : $P > 0.9999$ MNK1^{KO} vs MNK2^{KO} : $P = 0.687$</p> <p><u>Post-hoc: Novelty x sex</u> <i>Female vs male</i> Wild-type: $P = 0.38$ MNK1^{KO}: $P = 0.017$ MNK2^{KO}: $P = 0.115$</p>
NOR RI	<p><i>females:</i> wild-type=10 MNK1^{KO}=8 MNK2^{KO}=12</p> <p><i>males:</i> wild-type=7 MNK1^{KO}=7 MNK2^{KO}=5</p>	Two-way ANOVA, Tukey's post-hoc test for multiple comparisons	<p>Interaction: $F_{(2, 43)} = 0.8828$, $P = 0.4210$ Sex: $F_{(1, 43)} = 1.423$, $P = 0.2394$ Genotype: $F_{(2, 43)} = 5.574$, $P = 0.0070$</p> <p>Wild-type vs MNK1^{KO} : $P = 0.0497$ Wild-type vs MNK2^{KO} : $P = 0.6531$ MNK1^{KO} vs MNK2^{KO} : $P = 0.0071$</p>
Open field distance traveled	<p><i>females:</i> wild-type=10 MNK1^{KO}=6 MNK2^{KO}=12</p> <p><i>males:</i> wild-type=6 MNK1^{KO}=7 MNK2^{KO}=5</p>	Two-way ANOVA	<p>Interaction: $F_{(2, 40)} = 2.049$, $P = 0.1422$ Sex: $F_{(1, 40)} = 0.01534$, $P = 0.9020$ Genotype: $F_{(2, 40)} = 2.453$, $P = 0.0989$</p>

Time in center	<p>females: wild-type=10 MNK1^{KO}=6 MNK2^{KO}=12</p> <p>males: wild-type=6 MNK1^{KO}=7 MNK2^{KO}=5</p>	Two-way ANOVA	<p>Interaction: $F_{(2, 40)} = 0.1024$, $P=0.9029$</p> <p>Sex: $F_{(1, 40)} = 2.415$, $P=0.1281$</p> <p>Genotype: $F_{(2, 40)} = 0.1471$, $P=0.8637$</p>
wild type, MNK1/2 ^{DKO}			
Social Habituation test	<p>females: wild-type=8 MNK1/2^{DKO} =8</p> <p>males: wild-type=5 MNK1/2^{DKO} =7</p>	Three-way Repeated Measures ANOVA	<p>Genotype: $F_{(1, 24)} = 0.18$, $P=0.671$</p> <p>Sex: $F_{(1, 24)} = 3.51$, $P=0.073$</p> <p>genotype x sex: $F_{(1, 24)} = 0.27$, $P=0.607$</p> <p>trials: $F_{(2.6, 62.31)} = 30.47$, $P<0.0001$</p> <p>genotype x trials: $F_{(2.6, 62.31)} = 0.3$, $P=0.794$</p> <p>Sex x trials: $F_{(2.6, 62.31)} = 0.74$, $P=0.516$</p> <p>Sex x trials x genotype $F_{(2.6, 62.31)} = 2.57$, $P=0.07$</p>
Social recognition index	<p>females: wild-type=8 MNK1/2^{DKO} =8</p> <p>males: wild-type=5 MNK1/2^{DKO} =7</p>	Two-way ANOVA	<p>Interaction: $F_{(1, 24)} = 0.06461$, $P=0.8015$</p> <p>Sex: $F_{(1, 24)} = 1.246$, $P=0.2753$</p> <p>Genotype: $F_{(1, 24)} = 0.001524$, $P=0.9692$</p>
Social olfaction	<p>females: wild-type=8 MNK1/2^{DKO} =8</p> <p>males: wild-type=5 MNK1/2^{DKO} =8</p>	Three-way Repeated Measures ANOVA	<p>Genotype: $F_{(1, 25)} = 0.83$, $P=0.371$</p> <p>Sex: $F_{(1, 25)} = 0.9$, $P=0.351$</p> <p>genotype x sex: $F_{(1, 25)} = 3.51$, $P=0.073$</p> <p>trials: $F_{(3.96, 98.97)} = 18.17$, $P<0.0001$</p> <p>genotype x trials: $F_{(3.96, 98.97)} = 0.38$, $P=0.819$</p> <p>Sex x trials: $F_{(3.96, 98.97)} = 0.42$, $P=0.791$</p> <p>Sex x trials x genotype $F_{(3.96, 98.97)} = 0.69$, $P=0.602$</p>
Object Habituation test	<p>females: wild-type=8 MNK1/2^{DKO} =8</p> <p>males: wild-type=5 MNK1/2^{DKO} =8</p>	Three-way Repeated Measures ANOVA, Bonferroni's post-hoc test for multiple comparisons	<p>Genotype: $F_{(1, 25)} = 0.69$, $P=0.415$</p> <p>Sex: $F_{(1, 25)} = 4.49$, $P=0.044$</p> <p>genotype x sex: $F_{(1, 25)} = 0.85$, $P=0.364$</p> <p>trials: $F_{(2.42, 60.55)} = 24.34$, $P<0.0001$</p> <p>genotype x trials: $F_{(2.42, 60.55)} = 0.49$, $P=0.652$</p> <p>Sex x trials: $F_{(2.42, 60.55)} = 1.27$, $P=0.292$</p> <p>Sex x trials x genotype $F_{(2.42, 60.55)} = 4.29$, $P=0.013$</p>

			<p><u>Trial 1:</u> WT f vs DKO f: P=0.136 DKO f vs WT m: P=0.157 WT f vs DKO m: P=1 DKO f vs WT m: P=1 WT f vs WT m: P=0.423 DKO m vs WT m: P=0.475</p> <p><u>Trial 2:</u> WT f vs DKO f: P=1 DKO f vs WT m: P=0.167 WT f vs DKO m: P=1 DKO f vs WT m: P=1 WT f vs WT m: P=1 DKO m vs WT m: P=0.786</p> <p><u>Trial 3:</u> WT f vs DKO f: P=1 DKO f vs WT m: P=0.298 WT f vs DKO m: P=0.16 DKO f vs WT m: P=1 WT f vs WT m: P=1 DKO m vs WT m: P=1</p> <p><u>Trial 4:</u> WT f vs DKO f: P=0.95 DKO f vs WT m: P=0.648 WT f vs DKO m: P=0.027 DKO f vs WT m: P=1 WT f vs WT m: P=0.388 DKO m vs WT m: P=1</p> <p><u>Trial 5:</u> WT f vs DKO f: P=1 DKO f vs WT m: P=1 WT f vs DKO m: P=0.508 DKO f vs WT m: P=1 WT f vs WT m: P=0.579 DKO m vs WT m: P=1</p>
Object recognition index	<p>females: wild-type=8 MNK1/2^{DKO} =8</p> <p>males: wild-type=5 MNK1/2^{DKO} =8</p>	Two-way ANOVA	<p>Interaction: $F_{(1, 25)} = 0.7184$, P=0.4047 Sex: $F_{(1, 25)} = 0.08981$, P=0.7669 Genotype: $F_{(1, 25)} = 0.04815$, P=0.8281</p>
NOR	<p>MNK1/2^{DKO} male=8 MNK1/2^{DKO} female=8</p>	Three-way Repeated Measures ANOVA	<p>Genotype: $F_{(1, 25)} = 0.08$, P=0.78 Sex: $F_{(1, 25)} = 1.82$, P=0.19 Novelty: $F_{(1, 25)} = 27.51$, P<0.0001 genotype x sex: $F_{(1, 25)} = 0.06$, P=0.802 genotype x novelty: $F_{(1, 25)} = 0.6$, P=0.446 Sex x novelty: $F_{(1, 25)} = 4.79$, P=0.038 Sex x novelty x genotype: $F_{(1, 25)} = 0.14$, P=0.712</p>

			<u>Post-hoc: Novelty x sex</u> Familiar vs novel females : $P < 0.0001$ Familiar vs novel males: $P = 0.072$
NOR RI	females: wild-type=8 MNK1/2 ^{DKO} =8 males: wild-type=5 MNK1/2 ^{DKO} =8	Two-way ANOVA	Interaction: $F_{(1, 25)} = 0.06243$, $P = 0.8047$ Sex: $F_{(1, 25)} = 02.876$, $P = 0.1188$ Genotype: $F_{(1, 25)} = 0.4284$, $P = 0.1023$
Open field	females: wild-type=8 MNK1/2 ^{DKO} =8 males: wild-type=5 MNK1/2 ^{DKO} =8	Two-way ANOVA, Tukey's post-hoc test for multiple comparisons	Interaction: $F_{(1, 25)} = 0.1033$, $P = 0.7505$ Sex: $F_{(1, 25)} = 0.9874$, $P = 0.3299$ Genotype: $F_{(1, 25)} = 15.19$, $P = 0.0005$ Wild-type females vs MNK1/2 ^{DKO} females: $P = 0.0155$ Wild-type males vs MNK1/2 ^{DKO} males: $P = 0.0043$
Time in center	females: wild-type=8 MNK1/2 ^{DKO} =8 males: wild-type=5 MNK1/2 ^{DKO} =8	Two-way ANOVA	Interaction: $F_{(1, 25)} = 0.8855$, $P = 0.3557$ Sex: $F_{(1, 25)} = 0.1842$, $P = 0.6715$ Genotype: $F_{(1, 25)} = 0.2072$, $P = 0.6529$