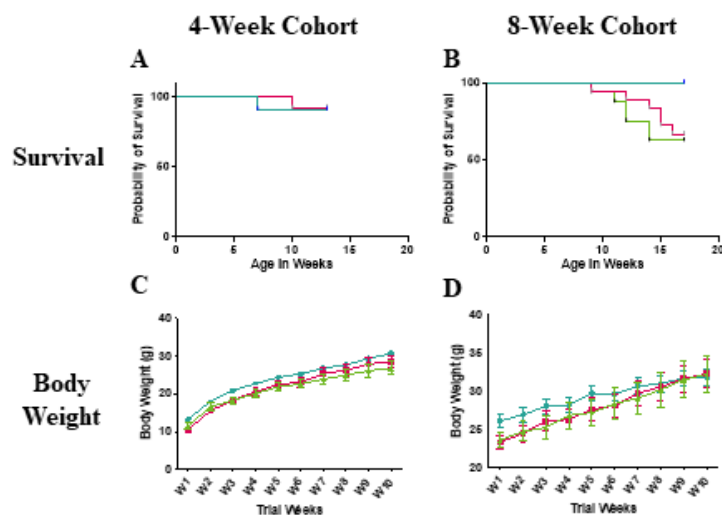


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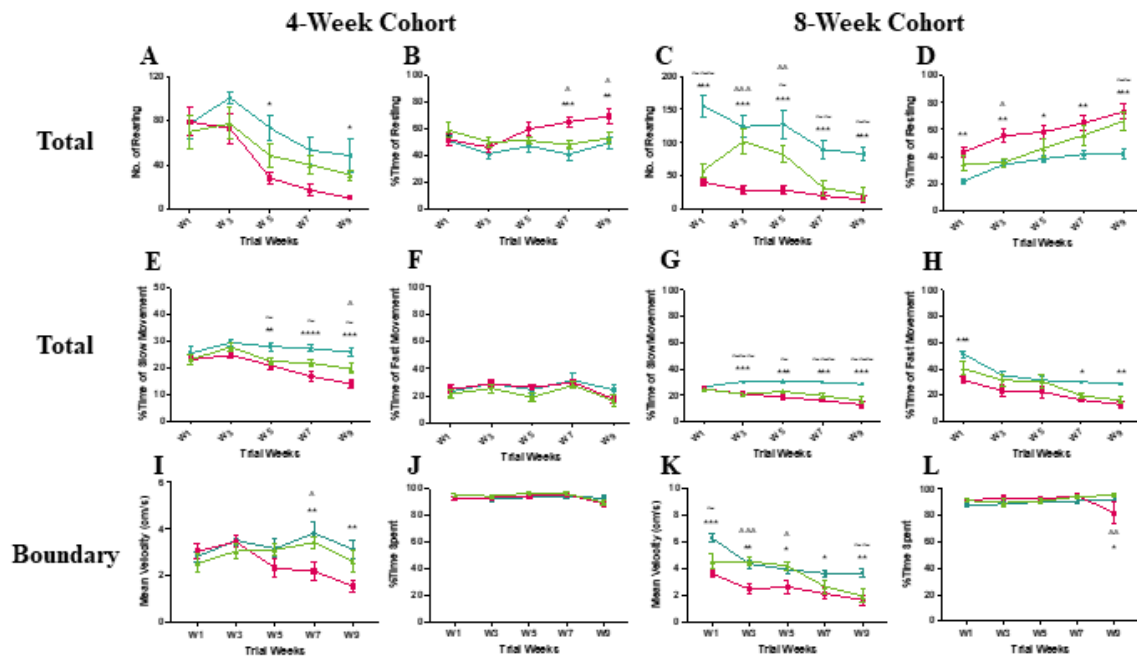
Anti-Semaphorin 4D rescues motor, cognitive and respiratory phenotypes in a Rett syndrome mouse model

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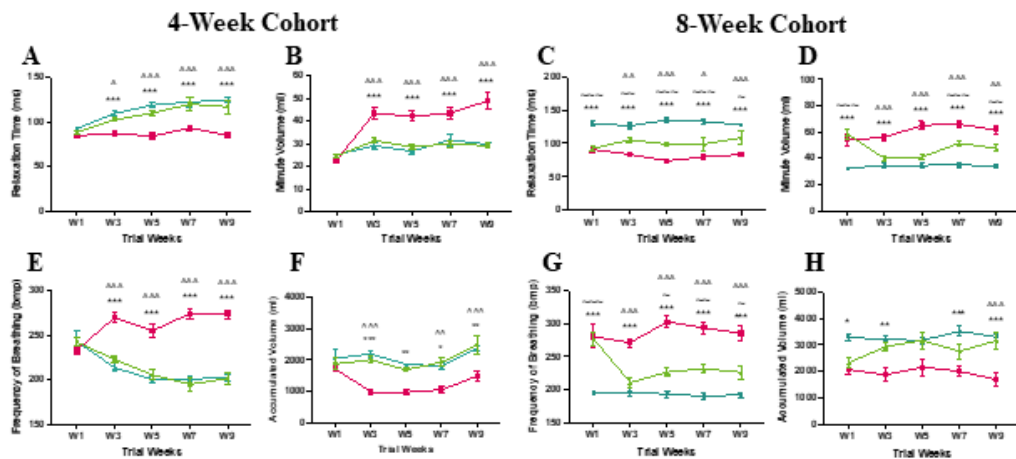
[†]Denotes co-last authors.





Supplementary Figure S1. Survival curves (A–B) and body weight graphs (C–D) of 4-week (pre-symptomatic) and 8-week (symptomatic) cohorts in the pre-clinical trial. Data are expressed as mean ± standard error of the mean. —●— C57BL/6 mice treated with control antibody (WT), —■— *Mecp2*^{T158A/y} mice treated with control antibody (P), —▲— *Mecp2*^{T158A/y} mice treated with anti-Semaphorin4D antibody (T). * WT vs P, ~ WT vs T, ^ P vs T. *, ~, and ^ $p < 0.05$; **, ~~ and ^^ $p < 0.01$; ***, ~~~ and ^^^ $p < 0.001$.



Supplementary Figure S2. Additional results of open field test of 4-week (pre-symptomatic) and 8-week (symptomatic) cohorts in the pre-clinical trial. Graphs display the analysis of total (A–B, E–F), and boundary (I–J) areas for the 4-week cohort, as well as total (C–D, G–H), and boundary (K–L) areas for the 8-week cohort. Data are expressed as mean \pm standard error of the mean. —●— C57BL/6 mice treated with control antibody (WT), —■— *Mecp2*^{T158A/y} mice treated with control antibody (P), —▲— *Mecp2*^{T158A/y} mice treated with anti-Semaphorin4D antibody (T). * WT vs P, ~ WT vs T, ^ P vs T. *, ~, and ^ $p < 0.05$; **, ~~, and ^^ $p < 0.01$; ***, ~~~, and ^^^ $p < 0.001$.



Supplementary Figure S3. Additional results of whole body plethysmography test of 4-week (pre-symptomatic) and 8-week (symptomatic) cohorts in the pre-clinical trial. Graphs demonstrate the relaxation time (A and C), the minute volume (B and D), the frequency of breathing (E and G), and the accumulated volume (F and H) for the 4-week and the 8-week cohorts, respectively. Data are expressed as mean \pm standard error of the mean. —●—

C57BL/6 mice treated with control antibody (WT),  *Mecp2*^{T158A/y} mice treated with control antibody (P),  *Mecp2*^{T158A/y} mice treated with anti-Semaphorin4D antibody (T). * WT vs P, ~ WT vs T, ^ P vs T. *, ~, and ^ $p < 0.05$; **, ~~ , and ^^ $p < 0.01$; ***, ~~~, and ^^^ $p < 0.001$.