

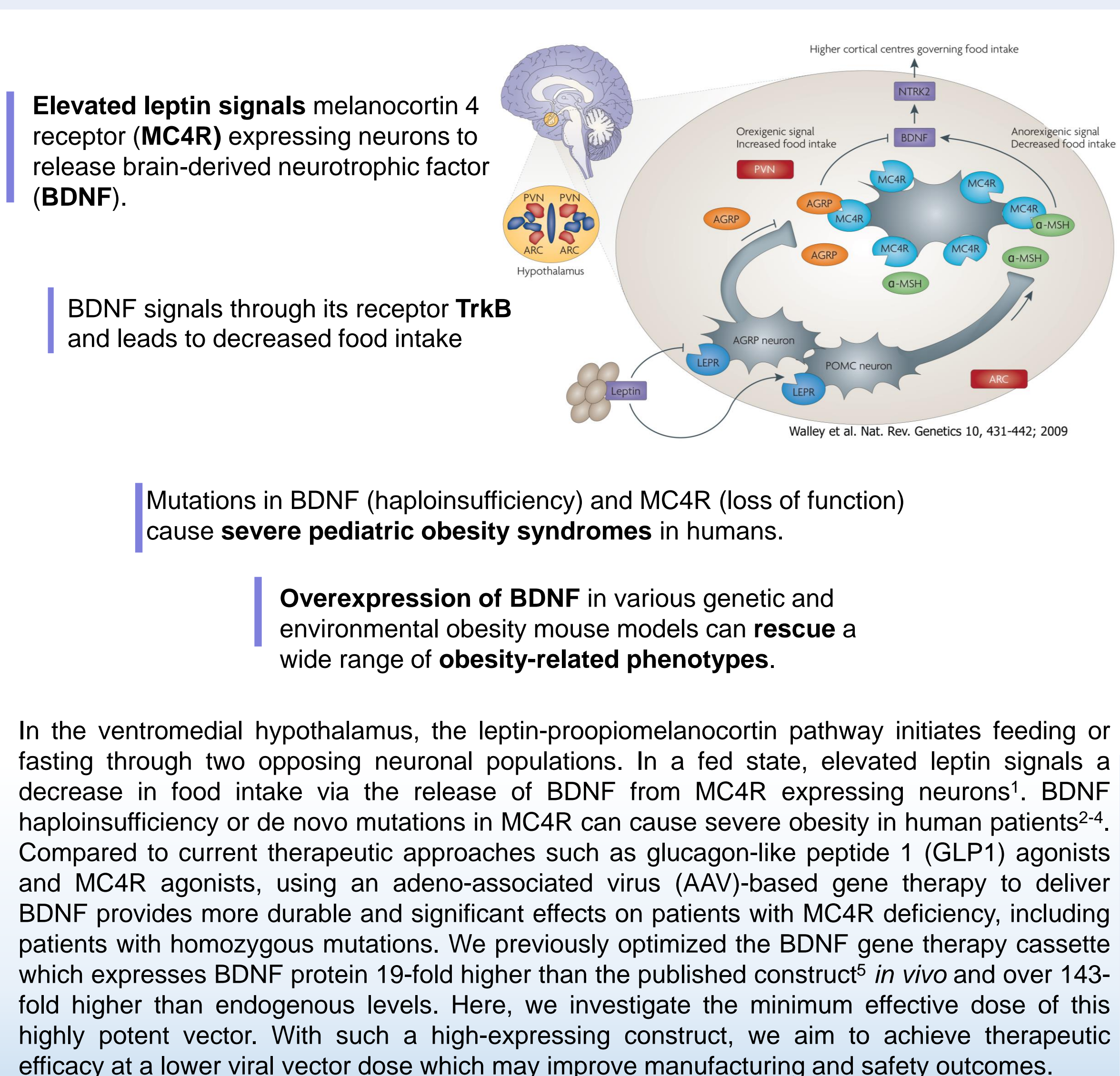


An ultra-low dose of a localized CNS gene therapy for severe pediatric obesity

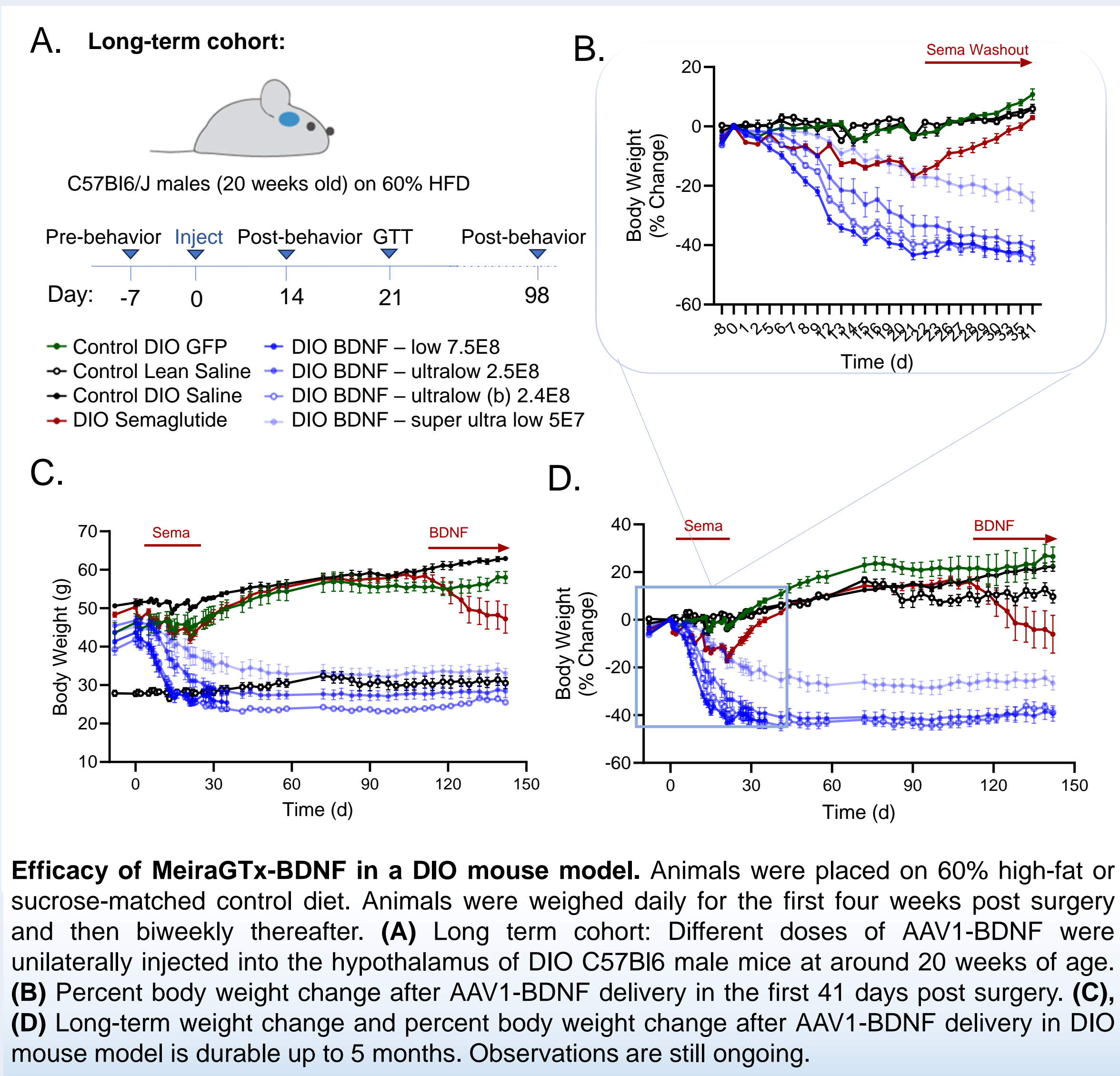
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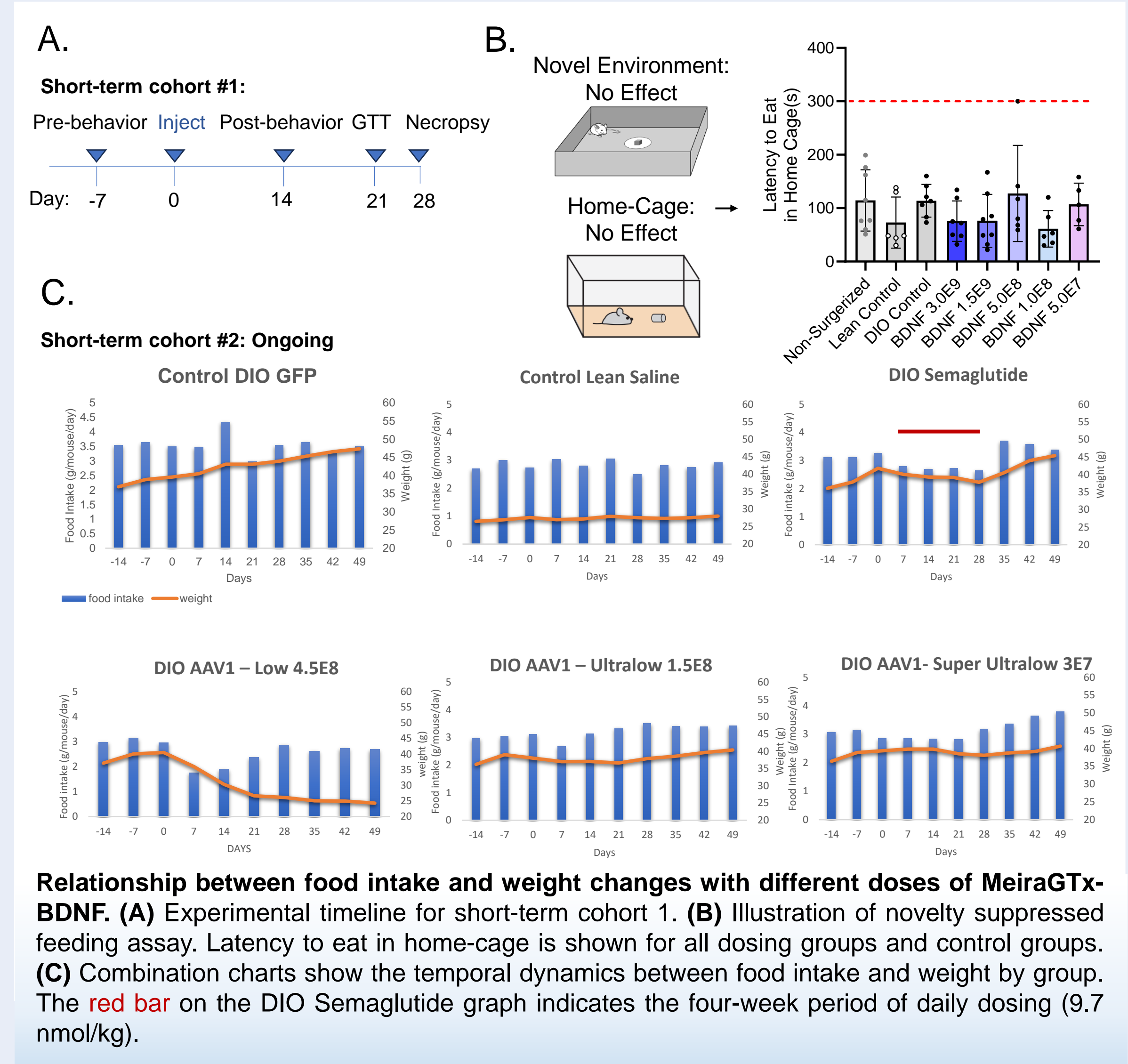
Developing AAV-BDNF gene therapy for severe pediatric obesity syndromes



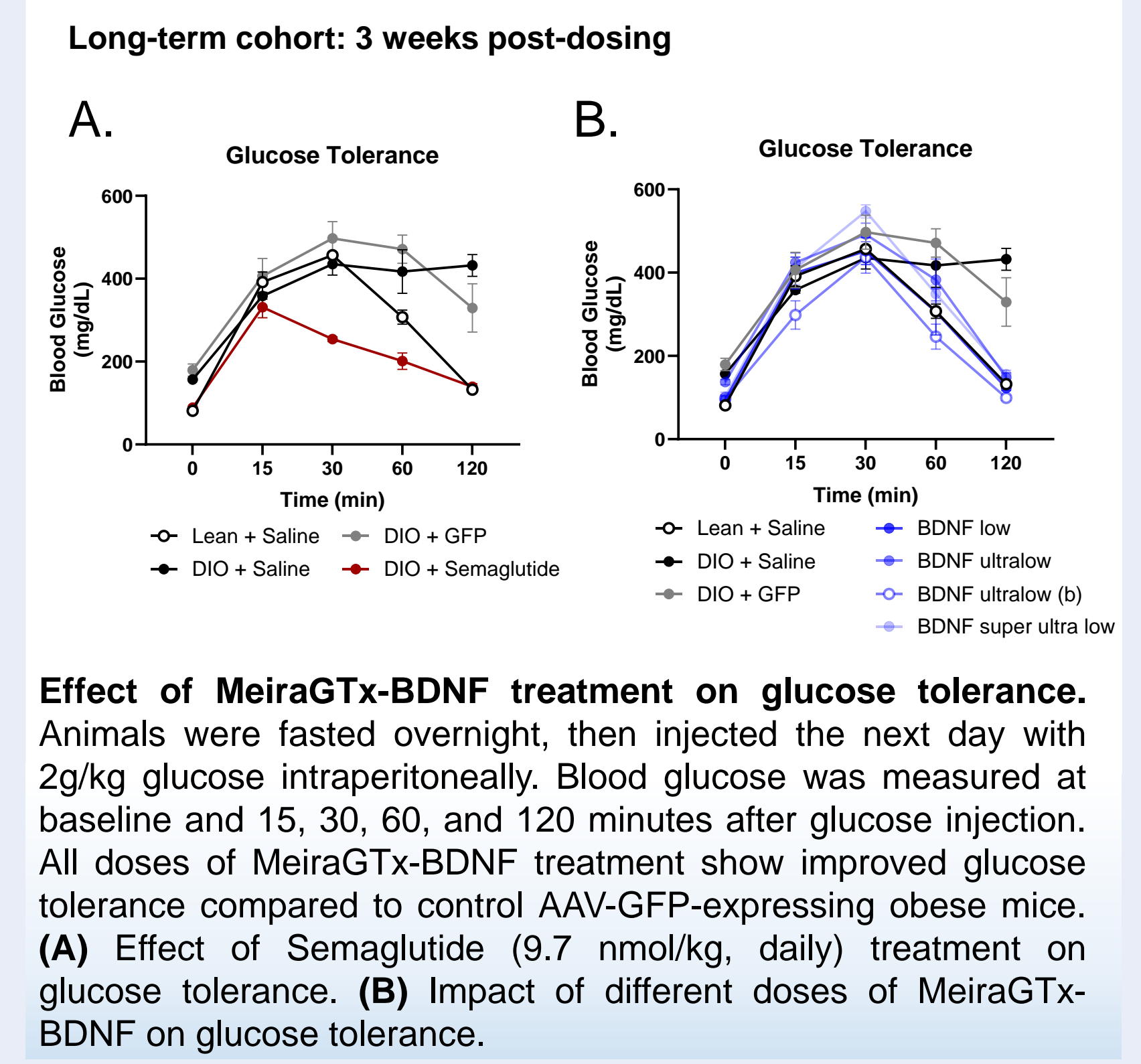
A single dose of MeiraGTx-BDNF in the VMH induces rapid and long-lasting weight loss in diet-induced obesity (DIO) mice



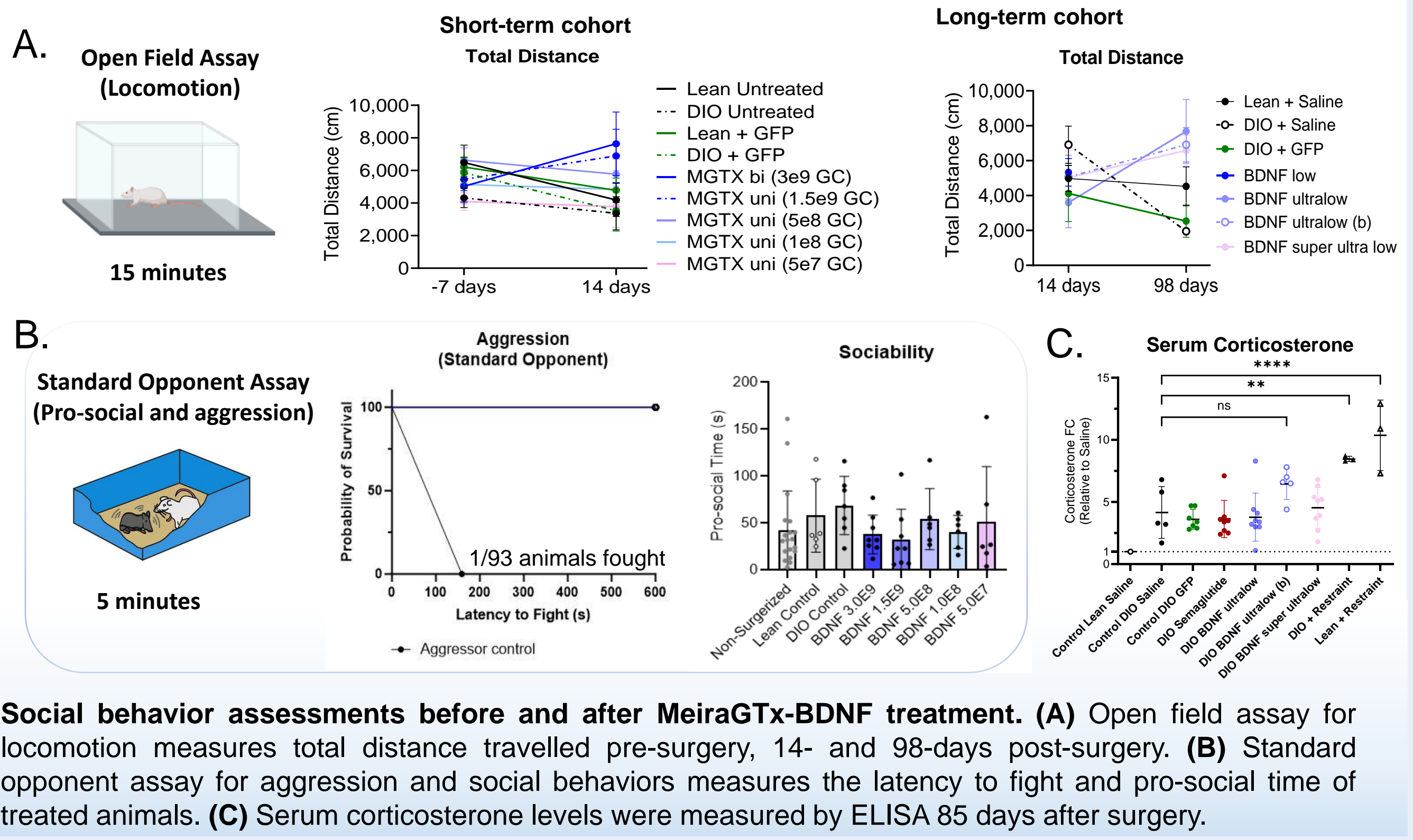
Dose-dependent reduction in daily food intake in MeiraGTx-BDNF treated DIO mice



Improved glucose tolerance after MeiraGTx-BDNF treatment



Increased locomotion but no deficits in aggression or social behaviors following MeiraGTx-BDNF treatment



Conclusions

Our highly potent gene therapy, MeiraGTx-BDNF, has significant potential to be a safe, effective, and durable therapeutic strategy for patients suffering from severe early-onset pediatric obesity syndromes.

- Unilateral delivery of MeiraGTx-BDNF to the ventromedial hypothalamus of obese mice on high-fat diet reduced food intake and increased locomotion.
- Treated animals lost up to 40% of their body weight, plateauing at the level of wild-type lean controls.
- Weight loss was durable for over five months at the time of this poster and will be monitored for the natural lifespan of the animals.
- Glucose tolerance was also improved in mice treated with MeiraGTx-BDNF indicating a return to a healthy metabolic state despite the chronic consumption of a high-fat diet.
- MeiraGTx-BDNF treatment did not disrupt other behaviors controlled by the hypothalamus such as pro-social interactions and did not heighten aggression.

References

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