A Novel Anti-CRF Antibody Suppresses The HPA Axis And Mitigates Age-Associated And Chronic Disease

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Aims and Objectives

Aim 1. Develop immunotherapies targeting CRF.

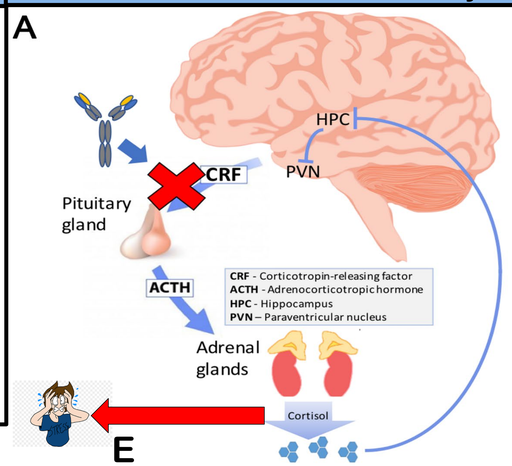
Aim 2. Characterize effects of HPA-axis suppression *in vivo.*

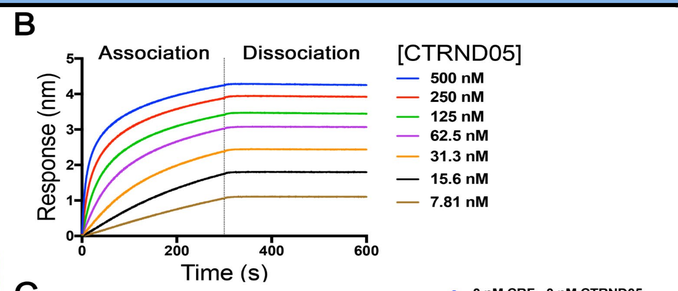
Aim 3. Determine potential of CTRND05 to mitigate age and diet-induced metabolic dysfunction.

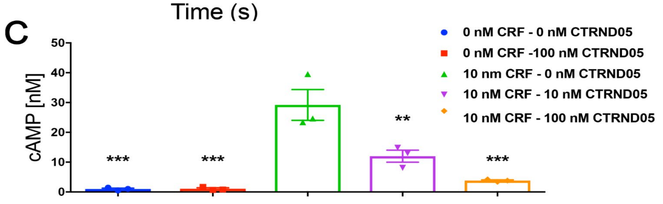
Aim 4. Evaluate CTRND05 as an adjuvant to current immunotherapies in the treatment of neurodegenerative and oncological disease

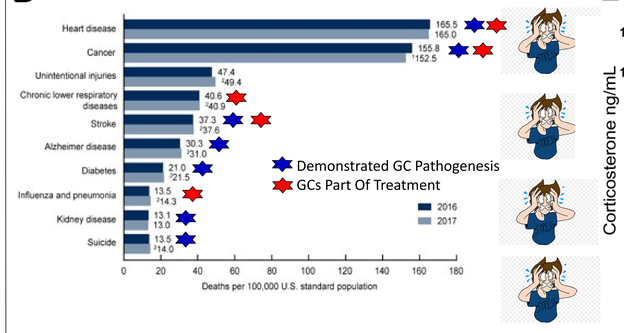
Aim 5. Translate antibody-based therapies into new paradigms, including COVID-19 neutralizing antibodies

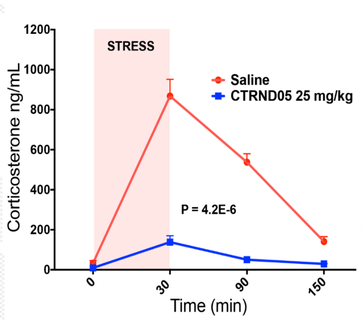
Anti-CRF Antibody Characterization *in vitro* and *in vivo*

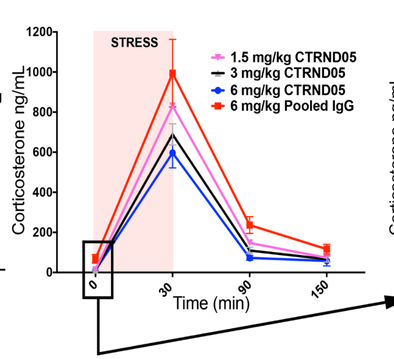


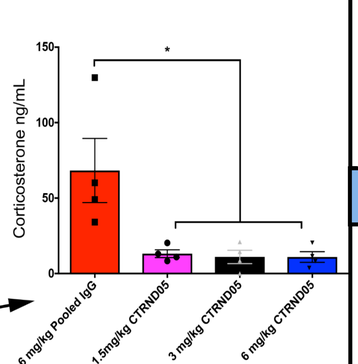


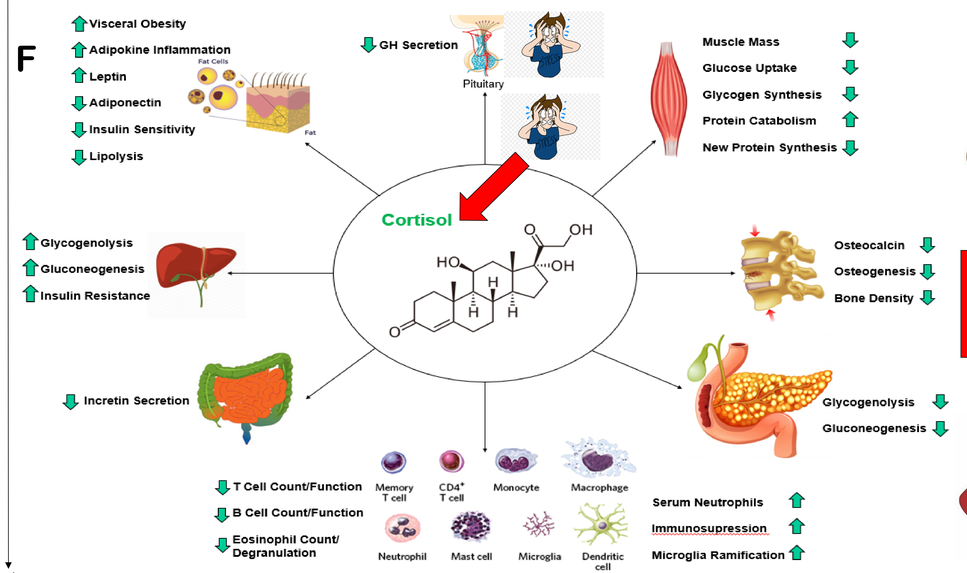


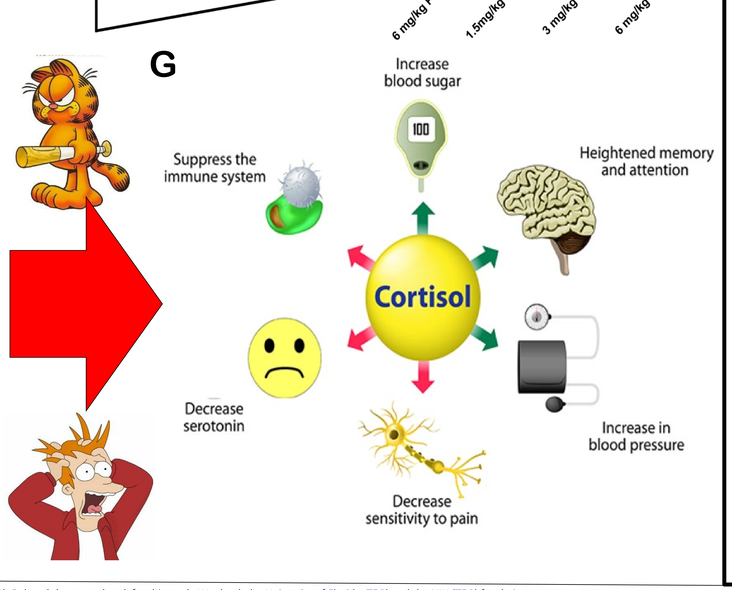






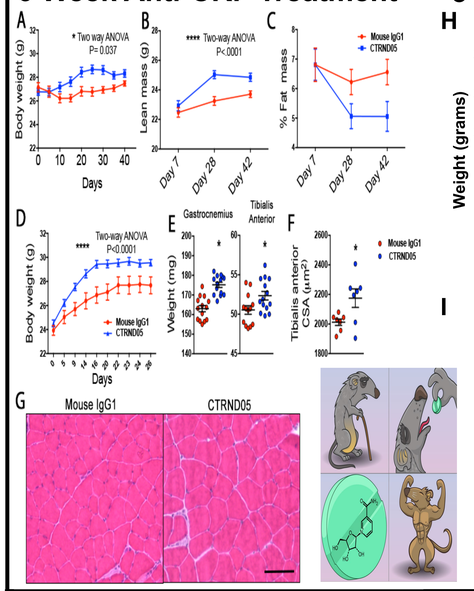




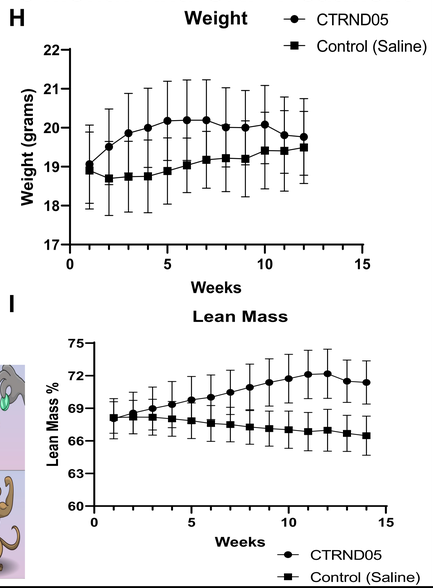


Anti-CRF Antibody Improves Metabolic Dysfunction

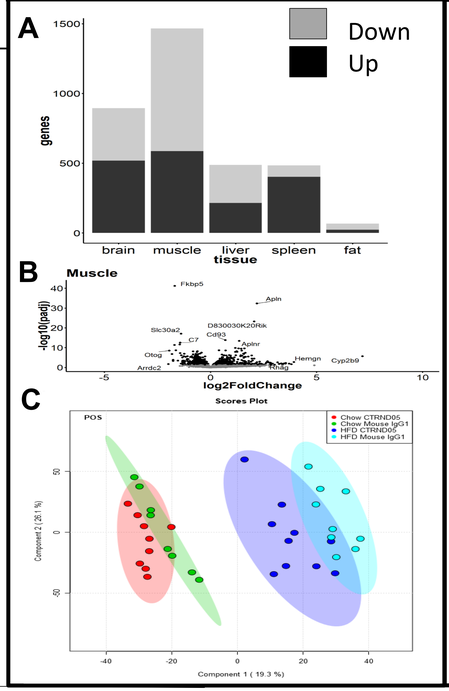
6 Week Anti-CRF Treatment



3 Month Anti-CRF Treatment



Transcriptomic and Metabolomic Shifts With Anti-CRF Treatment



Conclusions and Future Pursuits

These experiments illustrate the potential of CRF-blocking treatment in reversal of metabolic disease and aging phenotypes and as a potential adjuvant treatment in immunomodulatory treatments.

Next Steps:

1. Show efficacy of antibody in reversing metabolic syndrome and NAFLD in diet-induced obesity
2. Determine mechanistic basis for body composition and immune changes induced by antibody treatment.
3. Determine capacity for neuroprotection with passive immunization in amyloid models of AD
4. Follow up experiments on role of anti-CRF therapy in addiction, cancer and age-induced cachexia, Tau pathology, hypertension, cancer immunotherapy, and immune function
5. Utilize antibody development system to develop and characterize neutralizing and diagnostic anti-COVID antibodies

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