

## **Modeling Neuroimmune Interactions in Human Subjects and Animal Models to Predict Subtype Specific Multidrug Treatments for Gulf War Illness**

Gulf War Illness (GWI) is a persistent chronic neuroinflammatory illness exacerbated by external stressors and characterized by fatigue, musculoskeletal pain, cognitive and neurological problems linked to underlying immunological dysfunction for which there is no known treatment. Here, we constructed a logic model of immune regulatory behavior between human clinical samples and mouse models of GWI subtyped by exposure to traumatic stress. We identify several ideal multi-intervention strategies and potential drug candidates that may be used to treat chronic neuroinflammation in GWI.

### **Data Collection Methods**

Adult male C57BL/6J mice received a chronic exposure to corticosterone (CORT) at levels mimicking high physiological stress followed by exposure to the sarin surrogate, diisopropyl fluorophosphate (DFP). These mice were then re-exposed to CORT every other week for a total of eleven weeks, followed by a systemic immune challenge with lipopolysaccharide (LPS). The neuroinflammatory effects were interrogated by analysis of cytokine mRNA expression.

### **Publications using this dataset**

Arias FJC, Aenlle K, Abreu M, Holschack MA, Michalovicz LT, Kelly KA, Klimas N, O'Callaghan JP, Craddock TJA: Modeling neuroimmune interactions in human subjects and animal models to predict subtype specific multidrug treatments for Gulf War Illness. *International Journal of Molecular Sciences* 2021, 22, 8546. <https://doi.org/10.3390/ijms22168546>.

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When a publication makes use of this dataset, acknowledgement of the development of the dataset should be attributed to Michalovicz LT, Kelly KA, O'Callaghan JP

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