

Review Date	Last Name	First Name	Institution	Title	Cohort	Abstract
2021	McCarthy	Michael	University of California – San Diego/VA San Diego Healthcare Research Service	Cellular Circadian Rhythm Disruption in ME/CFS	CFI	<p>We hypothesize that TGF-β signaling is upregulated in ME/CFS and remains persistently elevated leading to a series of pathological events including circadian rhythm disruption that contributes to sleep disruption and cognitive complaints in a subset of ME/CFS patients. We anticipate that serum from ME/CFS patients with significant sleep disruption will be sufficient to cause circadian disruption in cultured fibroblasts and neurons.</p> <p>Our laboratory has substantial experience performing cellular circadian rhythm assays and has extensively used the NIH 3T3 cell model with <i>Per2-luc</i> transfection. In this aim, the effects on rhythms of serum from ME/CFS patients and control will be studied using <i>Per2-luc</i> in fibroblasts to determine if there are disease-specific factors (such as TGF-β) that affect cellular rhythms in live cells. In multi-day cellular rhythm assays using live cells, we will identify and characterize ME/CFS-associated abnormalities, identify the serum factors responsible, and assess the role of TGF-β using gene expression knockdown, recombinant cytokines, and pharmacological interventions to recapitulate or block the effects of serum.</p>
2022	Robbiani	Davide	Università della Svizzera italiana (Switzerland)	Autoantibodies against chemokines in CFS/ME	CFI	<p>The primary aim of this pilot study is to measure the level of plasma autoantibodies against the 43 human chemokines in CFS/ME patients. This will be compared to matched cohort controls, and to convalescent individuals after COVID-19 (with or without long-COVID) and other infections. Moreover, as a secondary aim, we will test the hypothesis that common cold coronaviruses may be involved in CFS/ME pathogenesis by measuring the same samples for the presence of antibodies to the spike protein of human common cold coronaviruses (229E, OC43, NL63, HKU1) and SARS-CoV-2 (note: since the requested samples are pre-pandemic, SARS-CoV-2 reactivity will serve as negative/background control). Since the presence of specific anti-chemokine antibodies is associated with protection from long-COVID, in addition to having</p>

						diagnostic utility, the study of these autoantibodies in CFS/ME has the potential to pave the way to novel therapeutic approaches.
2023	Robbiani	Davide	Università della Svizzera italiana (Switzerland)	Autoantibodies against chemokines in CFS/ME	CFI	The primary aim of this pilot study is to measure the level of plasma autoantibodies against the 43 human chemokines in CFS/ME patients. This will be compared to matched cohort controls, and to convalescent individuals after COVID-19 (with or without long-COVID) and other infections. Moreover, as a secondary aim, we will test the hypothesis that common cold coronaviruses may be involved in CFS/ME pathogenesis by measuring the same samples for the presence of antibodies to the spike protein of human common cold coronaviruses (229E, OC43, NL63, HKU1) and SARS-CoV-2 (note: since the requested samples are pre-pandemic, SARS-CoV-2 reactivity will serve as negative/background control). Since the presence of specific anti-chemokine antibodies is associated with protection from long-COVID, in addition to having diagnostic utility, the study of these autoantibodies in CFS/ME has the potential to pave the way to novel therapeutic approaches.