

**SIMMUN**  
enrolled: n = 215

**Outcomes:**  
serum concentration of TRP, KYN, PHE, TYR, ratios of KYN/TRP and PHE/TYR

**Explanatory variables:**  
demographic and clinical variables (age, sex, body mass), smoking, alcohol, co-morbidity  
serum markers of inflammation  
SARS-CoV-2 infection status and anti-SARS-CoV-2 Ab titer  
psychometry (stress, depression, anxiety)

excluded due to study variable missingness  
n = 50

**SIMMUN**  
analysis dataset: n = 165

Identification of demographic, clinical, inflammatory, SARS-CoV-related and mental health factors that influence the serum metabolite levels

Multi-parameter linear modeling  
(backward elimination)

Univariable analysis (correlation, statistical hypothesis testing) of explanatory factors identified by linear modeling

**INCOV**  
enrolled: n = 645

**Outcomes:**  
serum levels of 5-HT and DA sulfate

**Explanatory variables:**  
SARS-CoV-2 infection status and time post infection  
serum inflammatory cytokines (IL6, IL10, TNF and IFNG)  
serum levels of 5-HT and DA precursors and competitor pathway products (TRP, KYN, QUIN, PHE, TYR)  
age

excluded due to study variable missingness  
n = 291

**INCOV**  
analysis dataset: n = 354

Impact of SARS-CoV-2 infection, systemic inflammation, precursors and competitor pathway metabolite levels on the serum levels of 5-HT and DA sulfate

Multi-parameter robust linear modeling

Time course robust linear modeling and correlation analysis of metabolites and inflammatory cytokines