Quantitative Systems Pharmacology (QSP)
Systemic Lupus Erythematosus Model

The model is trained on over 25 drug regimens and 14 distinct therapeutic agents used in over 20 Phase 2 and Phase 3 clinical trials, including a variety of steroid protocols.

Key Applications

- Predict efficacy for novel therapies
- Optimize treatment efficacy by assessing different treatment sequences, combinations, and dosing scenarios
- Compare and contrast different therapeutics with same or similar targets
- Determine patient subgroups best suited for specific therapies (based on baseline features, such as biomarker levels)

Key Features

Native handling of generation and optimization of virtual populations

Includes both qualitative and quantitative data during model training

Represents patients with distinct baseline characteristics and clinical trials with specific entrance criteria

Plot and analyzes simulation results in the same platform

Validated virtual population with new biological and pharmacological components can include novel compound predictions while recapitulating and validating against existing clinical trial data.

Sound Science

Generates
virtual populations that include inter-patient variability in pathophysiology as well as clinical endpoints

Data
Pre-clinical and clinical data informs the biological interactions in the model and the relative contribution of these inflammatory processes to SLE endpoints

Easily adjusted
Can be easily adjusted to represent CLE or LN

Multiple
organs are represented to capture the systemic nature of lupus, including skin, joints, lymph nodes, and kidneys

Represents
disease processes, including relevant immune cells and proteins (e.g. autoantibodies and cytokines) that feed into inflammatory pathways and inform SLE clinical endpoints

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