Quantitative Systems Pharmacology (QSP) Psoriasis Model

Over 20 Phase 2 and Phase 3 clinical trials were used in training this model, spanning 7 distinct therapeutic agents, including TNF inhibitors, JAK inhibitors, IL-23 inhibitors and IL-17 inhibitors.

Key Applications

- Report clinically-relevant biomarkers and trial endpoints to support novel pipeline development
- Add to skin inflammatory model to support desired species and therapeutic mechanisms
- Validate the virtual population against major drug classes in the psoriasis space to ensure confidence of efficacy predictions in novel compounds

Key Features

- Convenient, efficient, and thorough generation and calibration of virtual populations
- Includes both qualitative and quantitative data during model training
- Represents patients with distinct therapy backgrounds and clinical trials with specific entrance criteria
- Plot and analyze simulation results in the same platform
- Automatically visualize connections between model components

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

Model
can account for administration route, allowing for comparisons across topical and systemic applications

Virtual
populations are designed with inter-patient variability in desired pathophysiological parameters that replicate the complex interactions of cells and cytokines in psoriatic lesions

Incorporates
detailed pharmacological, biological and clinical trial data in a single virtual population designed to simultaneously replicate a range of clinical trial results

Integrates
biological and clinical data to provide predictions of clinically-relevant biomarkers and trial endpoints for novel compounds including CRP and PASI