www.simulations-plus.com

SimulationsPlus

Quantitative Systems Pharmacology (QSP) **Ulcerative Colitis Model**

Over 20 Phase 2 and Phase 3 clinical trials were used in training this model, spanning 12 distinct therapeutic agents including TNF inhibitors, chemotaxis inhibitors, JAK inhibitors, and IL-23 inhibitors as well as combinations thereof for both induction and maintenance phases of clinical trials.

Key Applications

- Highlight effects from pro- and anti-inflammatory pathways involved in cellular dysregulation in ulcerative colitis (UC)
- Enable precise implementation of therapeutic agents with explicit modeling of cells and cytokines

Key Features

- Convenient, efficient, and thorough generation and calibration of virtual populations
- Includes both qualitative and quantitative data during model training
- Represents clinical trials with specific entrance criteria
- Plot and analyze simulation results in the same platform
- Automatically visualize connections between model components
- Export data to other programs for ad hoc analyses

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

Includes
local tissue, innate and adaptive immunity and their interactions as well as inter-patient variability in pathophysiology, and clinical endpoints

Processes
and features that differentiate UC from other gastric inflammatory diseases

Tissue
insults and immunological processes both contribute to mucosal barrier damage

Global
virtual population is trained to a wide array of Mayo-based clinical endpoints and associated variants

Maintenance
simulations involve both treat-through regimens and responder-only subpopulations

Commonly
used biomarkers such as CRP and FCP are directly informed by biological data

Connect with us:

+1-984-444-8305

Rev. 12/6/2023