

OSD Predict

Conserve API. Speed discovery.
Get formulation right from the start.

OSDPredict™ is a **digital toolbox powered by AI/ML** that identifies formulation challenges before they become costly setbacks, and **delivers data-driven foresight** into FIH dosing, packaging, and scale-up planning.

Conserve API. Focus on what works.

Key Capabilities

- **Formulation behavior prediction**
Anticipate solubility, permeability, and bioavailability issues before they derail programs.
- **First-in-human dose optimization**
Model FIH molecule behavior with clarity and confidence
- **Packaging selection**
Identify the right packaging strategy to ensure stability and compliance
- **Regulatory data generation**
Support IND-enabling studies with predictive insights
- **Scale-up planning**
Plan manufacturing transitions earlier with a higher probability of success

Why OSDPredict?

- **Save precious API:** Minimize experimental waste and conserve scarce molecules.
- **Rapid advancement of early development:** Reach milestones faster with predictive foresight.
- **Derisk decision making:** Act with confidence, guided by AI-driven predictions.
- **Increase first-time success:** Reduce reformulation cycles and achieve IND readiness smoothly.

The digital models OSDPredict uses

- **Thermo Fisher's Quadrant 2™ predictive modeling:** AI/ML solubility enhancement technology —no physical API needed. Get polymer / excipient and technology recommendations in two weeks.
- **Compaction simulation:** Tablet performance prediction with minimum use of API. Avoid failed batch trials and scale smart.
- **Stability screening with minimal API:** Early stability insights using micro-batches and accelerated protocols to predict shelf life and degradation risks, as well as packaging options.
- **PBPK modeling:** Use physiologically based pharmacokinetic modeling to simulate absorption and predict human bioavailability—before producing a single batch.

Plus: Small-scale experiments to confirm what works.

Why Thermo Fisher Scientific?

- 9 of ten small molecule blockbusters supported, from development to commercialization
- 400 solubility issues solved
- 135+ NDAs approved since 2011
- 13.5B+ oral doses produced
- 1 connected global network of clinical-to-commercial OSD sites in US and Europe

OSDPredict: focus on what works.

Learn more at patheon.com/OSDPredict