ThermoFisher SCIENTIFIC

QUADRANT 2™ FACT SHEET

SOLVED WITH

POWER & PROCESS

patheon

Quadrant 2™

Predictive platform for solubility and bioavailability enhancement

Solve solubility and bioavailability challenges before they become long term issues

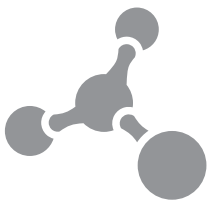
Poorly soluble compounds often demonstrate lower bioavailability, which can reduce the efficacy of the drug substance or product. Approximately 80 percent of molecules experience bioavailability challenges, which need to be resolved before clinical studies can be performed.

Typically, early formulation development would typically involve several trial-and-error experiments and screening studies to identify an enabling technology that works and typically takes 14 to 19 months to complete. However, leveraging Quadrant 2™ can eliminate trial-and-error costs and shorten timelines.

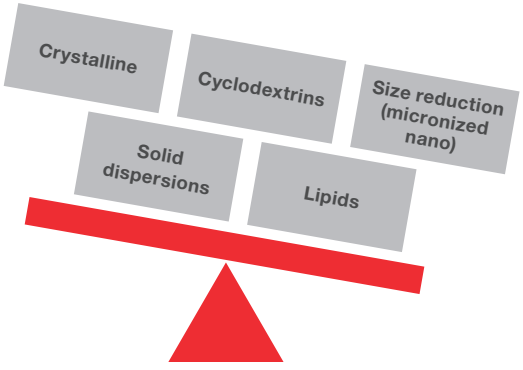
Quadrant 2™ helps in early formulation development by in-silico predictions of formulations via computational modeling. It analyses your compound's specific molecular structure and chemical characteristics, in combination with your unique target product profile. The Quadrant 2™ platform consists of proprietary algorithms that incorporate a variety of different computational methods including Quantum mechanics, Molecular Dynamics, QSAR, ADMET, statistical analysis and internally developed models. Using your compound's individualized data, this program can predict the most optimal solubility enhancement technology and excipient combination that are most likely to succeed.

This in-silico formulation development approach saves time and costs by avoiding empirical, trial-and-error approaches that are typically done. These customized insights can also help avoid the risk of having to revise solubility enhancement approach after Proof of Concept – a costly pitfall that can require up to 12 months of added time and incur additional costs in the range of $500,000 to $600,000.

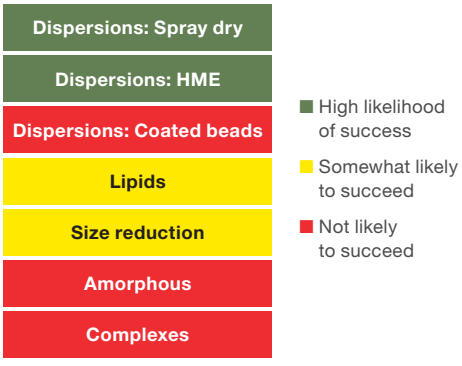
Drug structure



Selection algorithm



Technology option (example outcome)



How to start solving your low solubility and bioavailability challenges

Following an initial consultation with one of our scientific experts all we will need to get started is:

API chemical structure

Any physiochemical properties already available (melting point as a minimum)

The business and clinical objectives

2 weeks

SME review

Comprehensive report with path forward

Proven accuracy

The Quadrant 2™ model has been applied to over 250 molecules since inception with great success. Validation studies have proven that the Quadrant 2™ technology selection tool is more than 90% accurate and the Quadrant 2™ excipient selection tool is more than 80% accurate.

“Excellent people. Excellent system. Excellent quality.”

Biopharmaceutical company focused on oncology, USA

+1 919 226 3200 ● thermofisher.com/patheon ● pharmaservices@thermofisher.com

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