

IMPACT-F optimizes lead candidates in Drug Discovery

Pharmaceutical companies use the expert system to forecast drug-uptake in humans.

The artificial intelligence technology, developed by PharmaInformatic, Germany, evaluates if a potential drug will be efficiently taken up in humans. IMPACT-F prioritizes drug-candidates based on predicted drug-uptake (“oral bioavailability”). This ranking allows the most efficient drug-candidates to be chosen for further development.

The technology has been used in therapeutic areas such as cancer, diabetes, inflammation, antivirals and autoimmune diseases. It has been applied to optimize lead candidates and to evaluate oral bioavailability and effective dose prior to human clinical trials. The first drug candidates evaluated with IMPACT-F have now progressed into clinical trials in humans.

Crucially, IMPACT-F improves drug discovery and development at a very early stage, since only the drug structure is needed to reliably forecast oral bioavailability. This enables pharmaceutical companies to focus resources on prospective drug development projects.

Oral bioavailability is one of the most important properties in lead optimisation. A drug must have sufficient oral bioavailability in humans otherwise clinical trials are not effective and drug development is then stopped. Low drug-uptake can result in high inter-individual variability and increases the risk of side-effects and toxicity.

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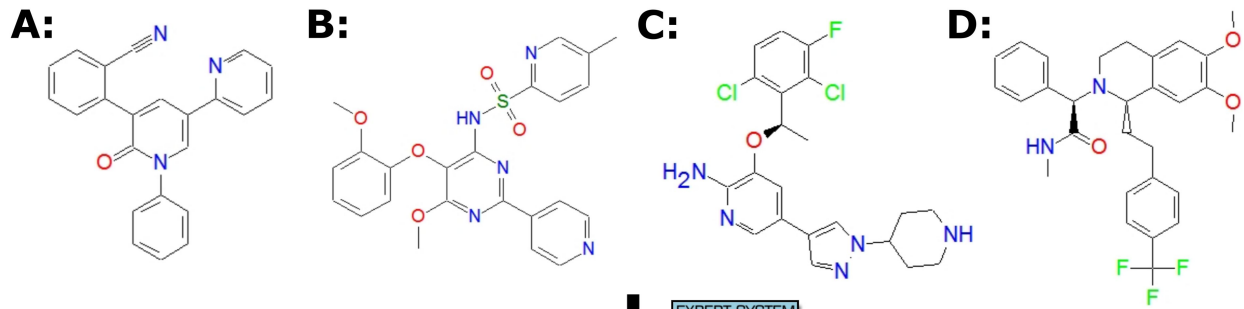
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[Further information](#)

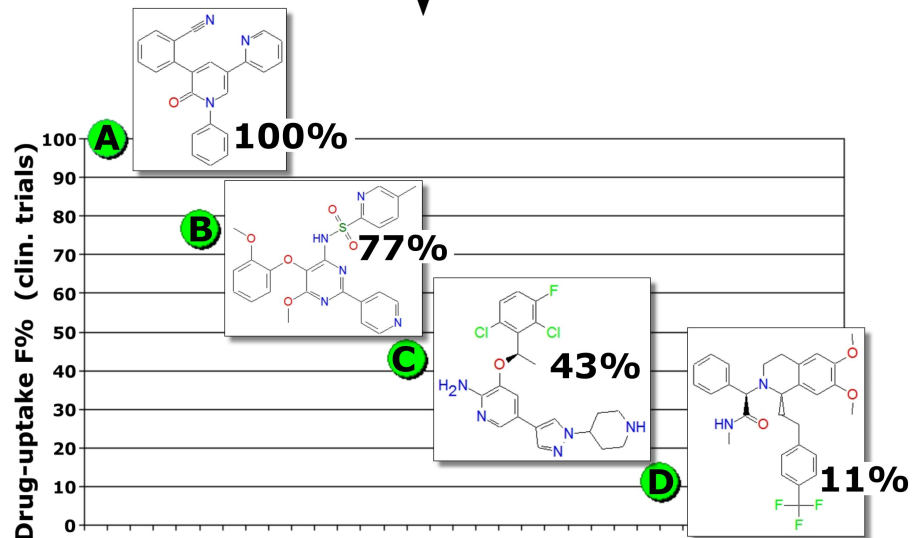
[Pharmaceutical companies using IMPACT-F in drug discovery](#)

Which drug will be taken up best in humans?



Drug-uptake prediction

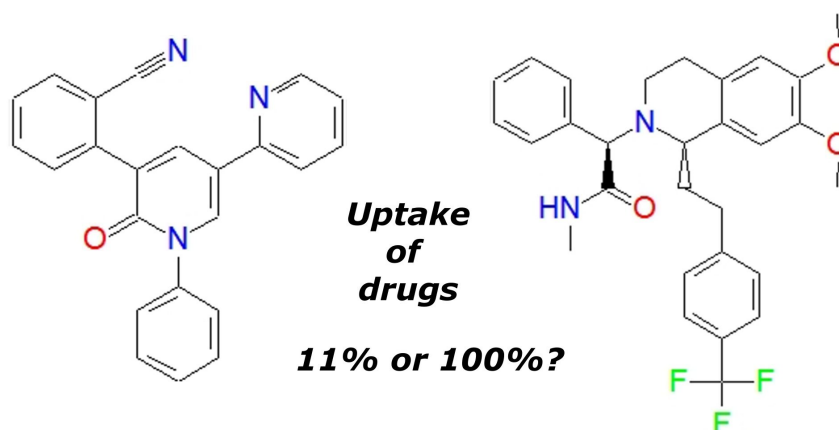
EXPERT SYSTEM
Bioavailability
IMPACT-F



IMPACT-F forecasts human drug-uptake and ranks compounds correctly

The expert system [IMPACT-F](#) analyses the structure of a compound and predicts its uptake in humans.

Artificial Intelligence selects future drugs



Expert system predicts uptake in humans by structure analysis

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