Human Oral Bioavailability

How much of an oral drug will reach systemic circulation

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Dear Client,

first and foremost, thanks for downloading this free resource. All graphics in this report are predictions made by our AI systems. They show the profile of this ADMET endpoint for thousands of marketed drugs. We divided it by indication, and as you can see, it changes a lot from one category to another. Therefore, try to find the closest indication to the compounds you are currently developing.

Human oral bioavailability answers what fraction of an oral dose reaches the systemic circulation? It reflects the combined effects of release from the dosage form, dissolution, intestinal absorption, and escape from metabolism. It is an exposure measure, not a direct measure of efficacy, safety, or absorption rate.

Absolute oral bioavailability is usually measured in a clinical pharmacokinetic study. Participants receive the compound orally and intravenously, often in a crossover design. Researchers collect serial blood samples and quantify the parent drug using a validated analytical method, commonly liquid chromatography coupled with tandem mass spectrometry. Plasma concentration–time data are used to calculate the area under the concentration–time curve, or AUC.

Intravenous administration provides the reference because it delivers the dose directly into systemic circulation. Oral bioavailability is governed by the fraction absorbed and the fractions that escape intestinal and hepatic first-pass elimination. Poor aqueous solubility, slow dissolution, chemical degradation, low membrane permeability, efflux transport, and metabolism all reduce the final value.

Higher bioavailability usually supports lower oral doses and more reliable systemic exposure. It is not universally preferable. High exposure can narrow the dosing margin or increase concentration-related toxicity. **Low bioavailability can be acceptable for drugs intended to act within the gastrointestinal tract.**

Bioavailability must be interpreted with aqueous solubility, dissolution, intestinal permeability, and transporter interactions.

We generated these insights using advanced AI systems designed to analyze complex biotech data and highlight potential trends. While we strive for accuracy, AI models can occasionally make mistakes or miss context, so please treat these predictions as informative guidelines rather than absolute facts.

This report is provided for general informational and educational purposes only, not for medical diagnosis, treatment decisions, or financial advice. Because individual

circumstances and data can vary, we cannot be held responsible for any decisions made or losses incurred based on these predictions.

Now that we got this out of the way, we genuinely hope these results are useful for your research.

Sincerely,

Your friends at Nezu Biotech GmbH.

You have the vision. We can help make it reality.

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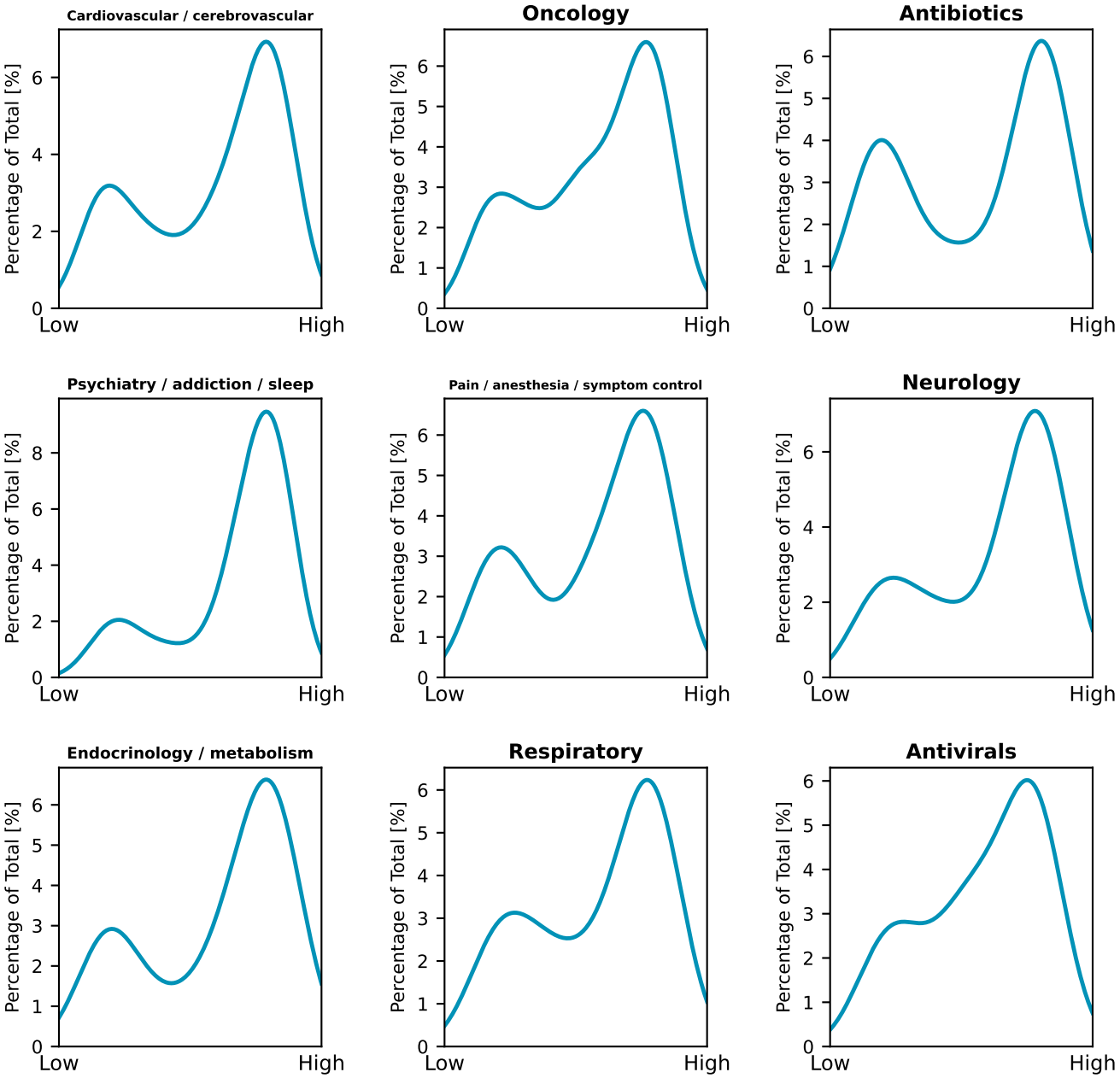
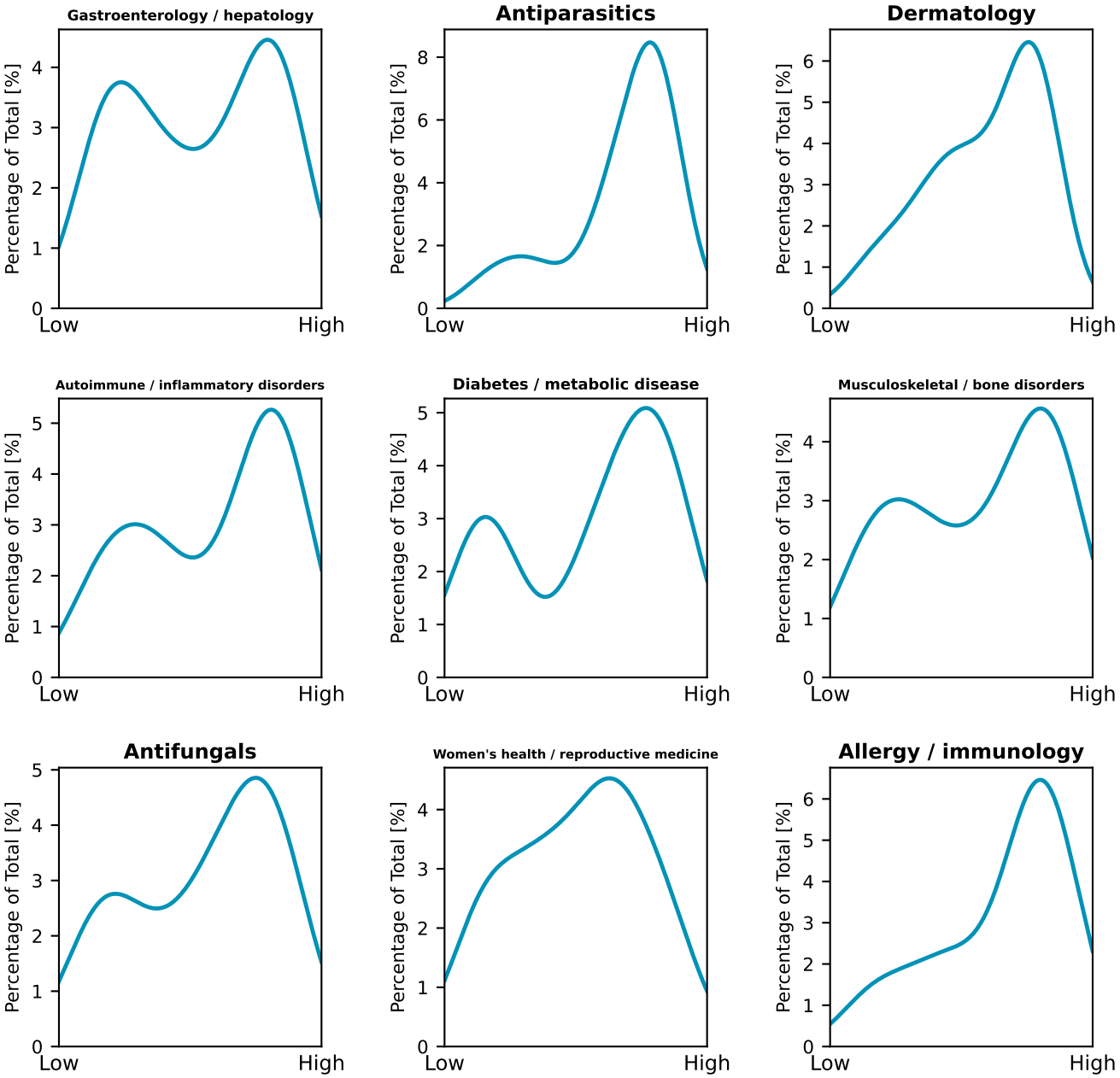
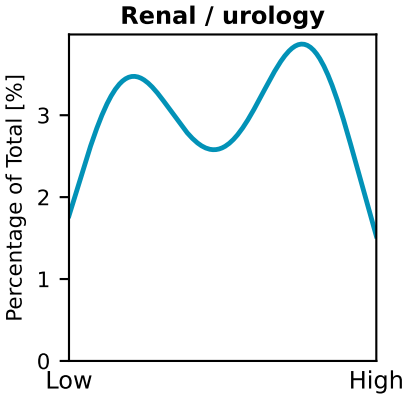
Bioavailability

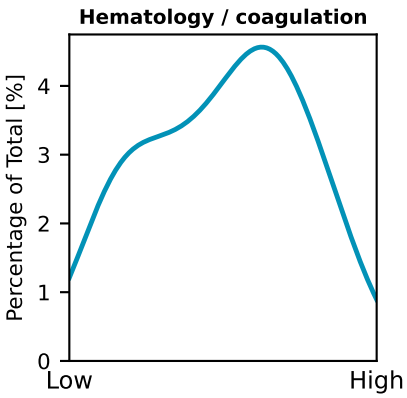


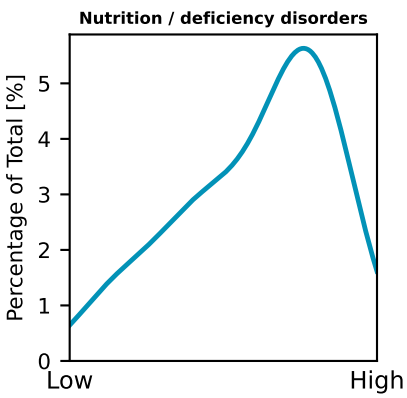
Bioavailability

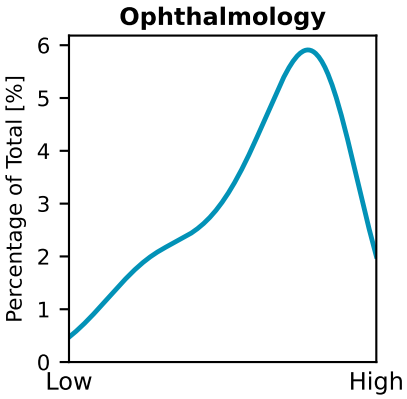


Bioavailability









Derived from thousands of marketed drugs