Skin Penetration Rate

The ability of a compound to pass through human skin

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Biotech GmbH

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.

Skin penetration rate answers how quickly does a compound cross the skin barrier under defined experimental conditions? This property matters for topical drugs that must remain within the skin, transdermal drugs intended to reach circulation, and obviously, for compounds where the dermal exposure must be limited.

The endpoint is commonly measured with an in vitro permeation test using excised human skin mounted between the donor and receptor chambers of a diffusion cell. Researchers apply the compound or formulation to the outer skin surface. Samples are collected from the receptor fluid over time and analyzed for the compound. The cumulative permeated amount is plotted against time.

The experiment represents passive movement from the skin surface, across the stratum corneum, and into deeper tissue or receptor fluid. The stratum corneum is the main barrier. Its lipid-rich structure restricts diffusion according to molecular size, ionization, lipophilicity, hydrogen bonding, and the compound's partitioning between the formulation and skin. Formulation composition, dose, temperature, and skin thickness all conditions also affect the result.

A high value indicates rapid permeation in that specific assay. This supports transdermal delivery when sufficient drug must cross the skin. **It is undesirable when local skin retention is required** or when systemic dermal exposure creates safety concerns. A low value limits systemic absorption but can also prevent a topical drug from reaching viable epidermal or dermal targets.

This endpoint does not by itself establish clinical absorption or efficacy. It must be interpreted with skin deposition, aqueous solubility, lipophilicity, molecular size, acidic and basic dissociation constants, formulation release and chemical stability.

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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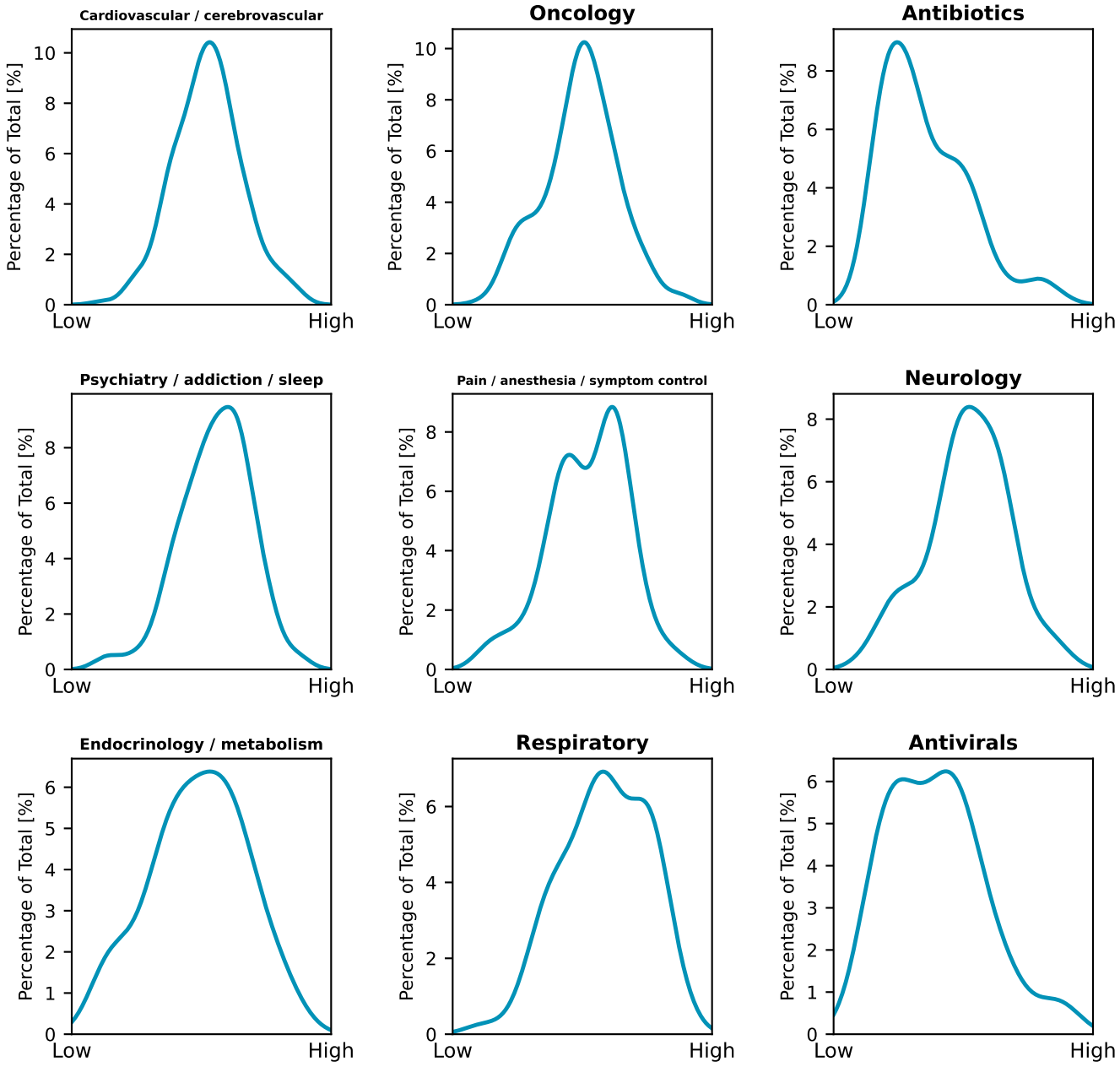

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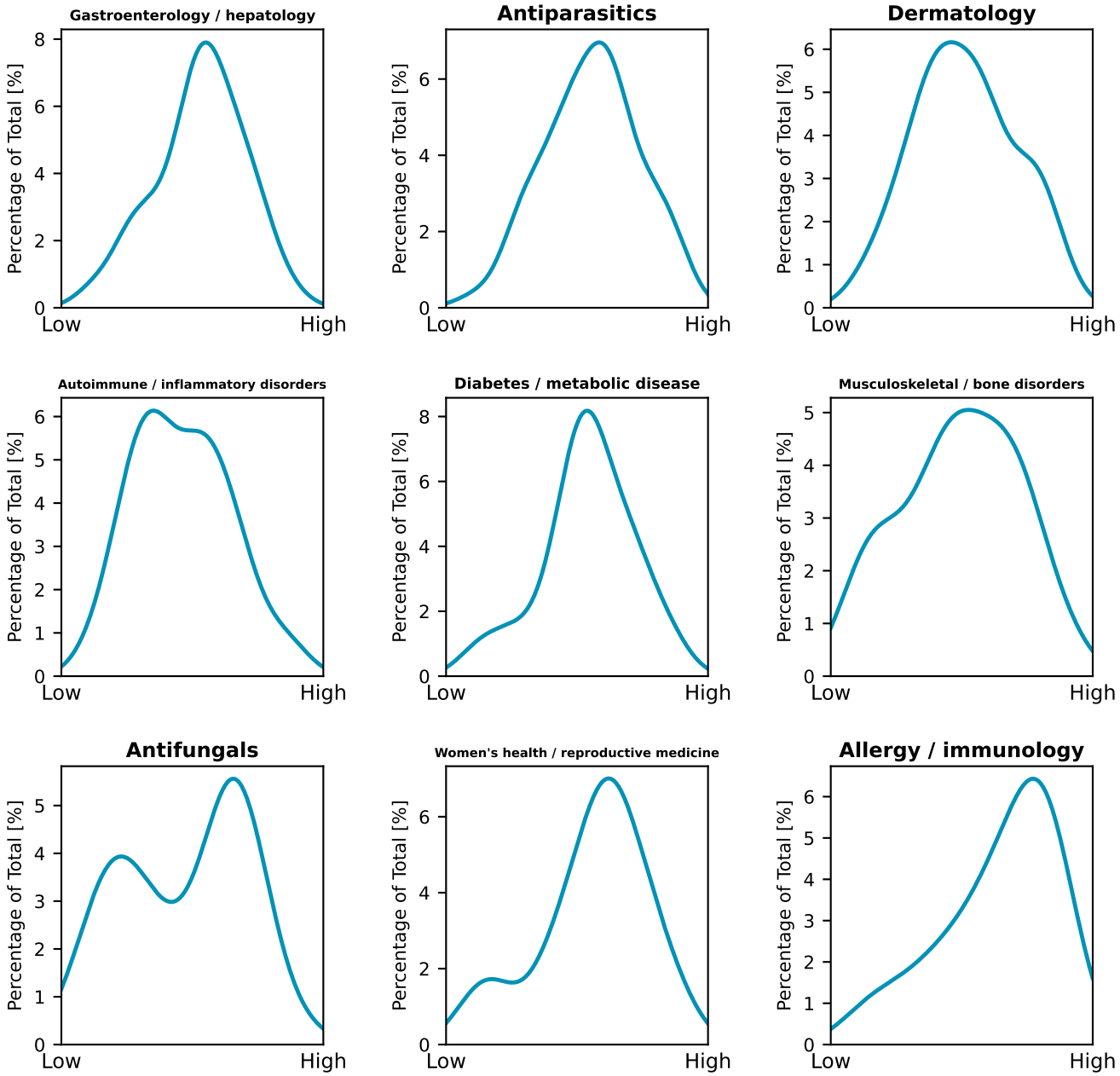

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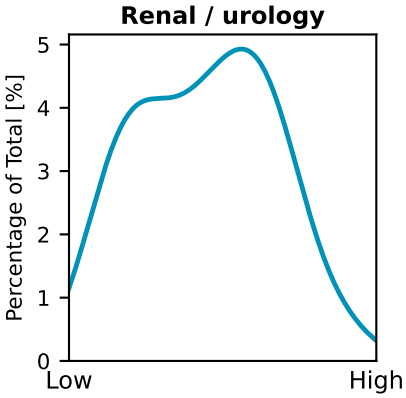

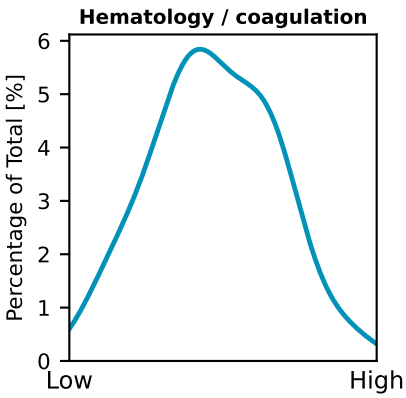

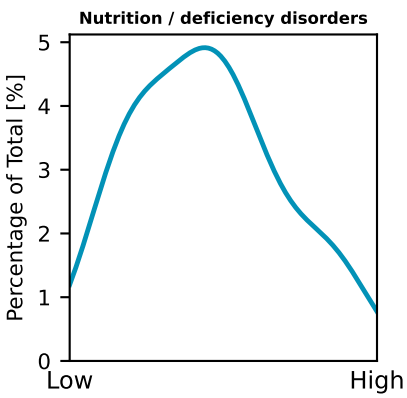

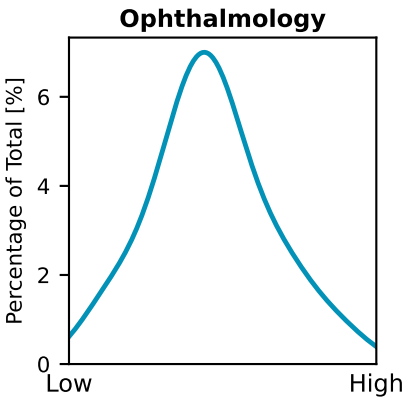

Derived from thousands of marketed drugs