Research & Services | Biopharmaceutics of New Drug Candidates (Yissum)
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Amnon Hoffman, HUJI, School of Pharmacy, Pharmaceutics

Conferring "drug like properties" on active compounds to create a drug lead that is active in-vivo

Categories	Life Sciences and Biotechnology, Medicine

Biopharmaceutics of Drug Development Laboratory, The Institute for Drug Research, School of Pharmacy

Research Capabilities

- Selection of potential drug candidates, using in vitro and in vivo models to overcome drawbacks that only become apparent when transferring an active in vitro compound to animals
- Conferring "drug-like properties" on active molecules (mainly peptides) by making them stable and orally available while maintaining their activity
- Identifying the absorption barriers of drugs (drug candidates) that manifest poor bioavailability
- Identifying absorption windows along the GI tract
- Biopharmaceutical assessment of novel drug delivery systems
- Enhancing bioavailability of highly lipophilic drugs: e.g. lipolysis model, lymphatic absorption of drugs

Advantages

The lab uses a battery of screening processes and employs a unique methodology based on a pharmacodynamic/pharmacokinetic characterization to formulate the drug and ensure it reaches the correct target at the right time and in the right concentrations. After screening, drugs are tested in freely moving rats to understand how they behave in a normal physiological environment.

Research Background

The lab has intensive experience in clinical and preclinical pharmacokinetic research with particular focus on the rational selection of an optimized drug delivery system. Currently, the lab focuses on three main directions:

- Turning active peptides into drugs
- Improving the bioavailability of lipophilic drugs
- Developing controlled release drug delivery systems for use in animals and humans

Researcher and Research Interests

Professor Amnon Hoffman, Chairman, Division of Clinical Pharmacy; Head, Pharm. D. Program, School of Pharmacy. In addition to his research activities, Professor Hoffman is involved in the academic side of the School of Pharmacy, training new drug researchers and pharmacists in the clinical aspects of pharmacotherapy and applied pharmacokinetics. Professor Hoffman has over 20 years of experience in the field of pharmacokinetics and pharmacodynamics, with a special interest in the biological aspects of drug delivery systems. He also has extensive training and background in the development of novel sustained release drug delivery systems, including a new technology called Gastro-retentive Dosage Form (GRDF). He has published widely and is the scientific co-founder of the startup companies Intec Pharma and Active PX.

Available Resources

Professor Hoffman's lab is fully equipped for in vitro, ex vivo and in vivo assessments of the activities described above.

Laboratory Contact

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