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THE JOINT TECHNOLOGY TRANSFER OF
THE BERLIN INSTITUTE OF HEALTH AND
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LECTURE SERIES

Spark is an initiative created at Stanford University, to overcome challenges associated with translation of academic discoveries. And now in Berlin!



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DECEMBER 4TH

NEXT SPARK

EDUCATIONAL FORUM

PRECLINICAL DRUG DEVELOPMENT

5:00 – 7:00 PM

KAISERIN FRIEDRICH-HAUS

ROBERT-KOCH-PLATZ 7

SEMINARRAUM OG2

DR. MARC NAZARÉ, FMP

PROF. FRANZ THEURING, Charité

For drug development, you need to take the hits from your high-throughput screen and first develop hits to leads and further run them through a preclinical program to determine their toxicity and pharmacological properties. The vast majority of marketed drugs underwent an extensive medicinal chemistry optimization prior entering clinical trials. The challenge is to carefully balance a multitude of parameters like activity, selectivity, metabolic stability and low toxicity in one single molecule. In this talk the principles for the selection of good hits as starting points for the chemical optimization, simple key descriptors of drug-likeness and the use of structure-activity relationships (SAR) as well as their underlying molecular recognition principles in protein ligand interactions will be discussed.

Lead candidates are studied to identify their pharmacokinetics and pharmacodistribution, in brief the ADME (absorption, distribution, metabolism and excretion) that will determine the tissue distribution and consequent availability of the compound at the site of action within an organism. It is also important to understand what toxicity results from exposure of the tissue/organism to the compound. Quality of ADME and toxicology studies depend on the selection of the mouse model.

In this educational forum we will learn more about relevant preclinical milestones for drug development programs.

Marc Nazare from the FMP is a clinical chemist with many years of industry experience. Franz Theuring is professor for pharmacology currently teaching at the Charite. Both are experts in their field and will give educational overview on the topic.