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A Modern *In Vivo* PK Paradigm: Combining Snapshot, Rapid and Full PK Approaches to Support Early Drug Discovery

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Successful drug discovery relies on selection of drug candidates with good in vitro ADME and *in vivo* pharmacokinetic properties as well as appropriate preclinical efficacy and safety profiles. However, *in vivo* animal pharmacokinetic studies are often conducted in a traditional low throughput manner, and therefore, are the bottlenecks of discovery projects in many pharmaceutical companies. This presentation will focus on the tiered *in vivo* PK approaches, including snapshot PK, rapid PK and full PK study designs we have implemented to support our drug discovery efforts. In all 3 approaches, compound is dosed and analyzed discretely, thereby eliminating any drug-drug interaction concerns and analysis complications typically associated with cassette dosing or cassette analysis. The rapid PK approach uses several integrated and automated processes and sample pooling strategy to improve throughput, and has become our main stream *in vivo* PK approach in the lead optimization stage. These *in vivo* PK approaches differ in throughputs, capacities and the resources required, and are designed to address the varying needs of drug discovery projects at different stages of project progression. These approaches are well integrated within discovery research, allow tremendous flexibility and are highly efficient in supporting the diverse needs and increasing demand for *in vivo* profiling. Examples of each of the tiered *in vivo* PK studies will be illustrated.

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