307 (ADMET) - A Walk-Up ADME Testing System for Medicinal Chemists and Pharmacologists

Muhammad Alimuddina[a], Martin Peacock[b], Russell Dahl[b,c], Omar Jina[d], Paul Oakley[d]

Pfizer Inc.[a], La Jolla, CA; VivADME Ltd.[b], USA, and Burnham Institute for Medical Research[c], La Jolla, CA, Syrris Ltd[d]

Rapid assessment of a compound's ADME profile within minutes of synthesis:

Introduction

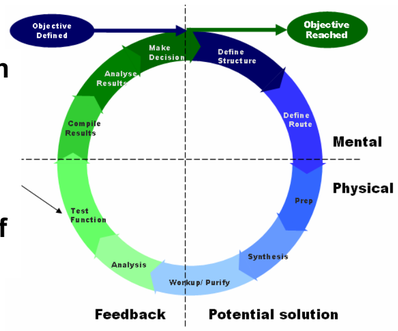
VivADME was born with the fusion of a problem and a solution:

1. Recognition by a Medicinal Chemist that ADME data took too long to obtain

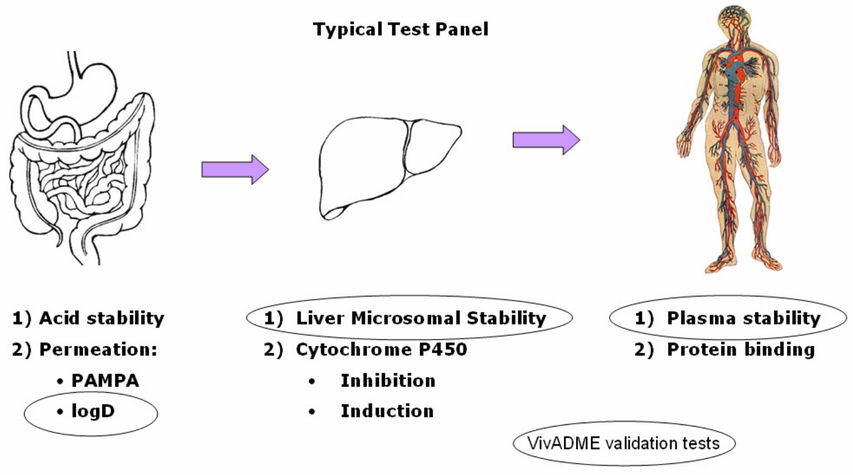
2. Realization that microfluidic tools could address the problem

The Medicinal Chemist works in an iterative loop as shown

- **Loop time can be ~6 weeks**
- **ADME/Tox can be ~2 weeks, hence a very significant part of the loop could be accelerated**

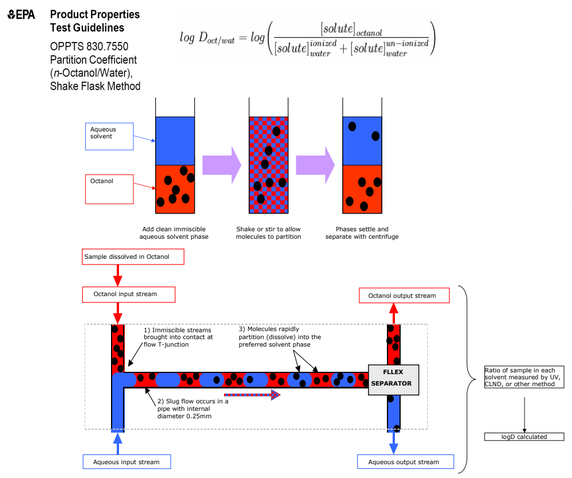


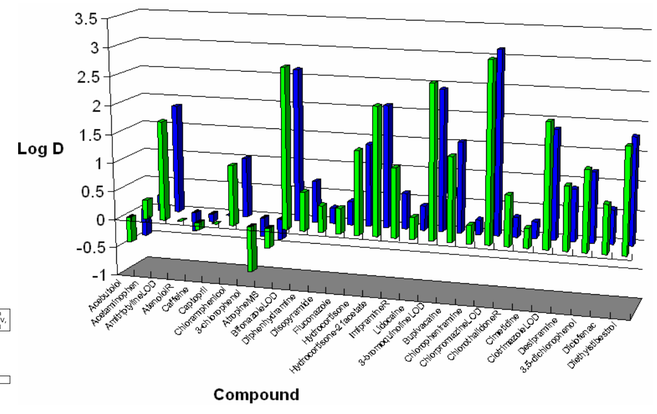
VivADME can quickly predict oral bioavailability



Validation results:

1. logD

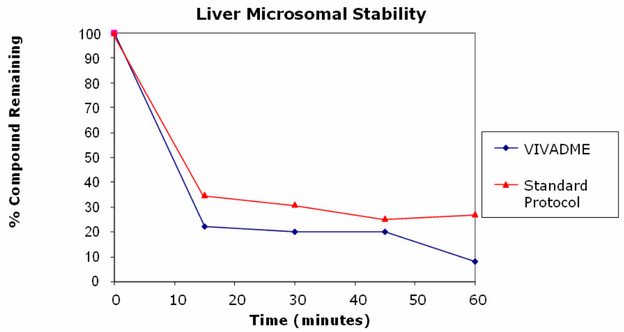




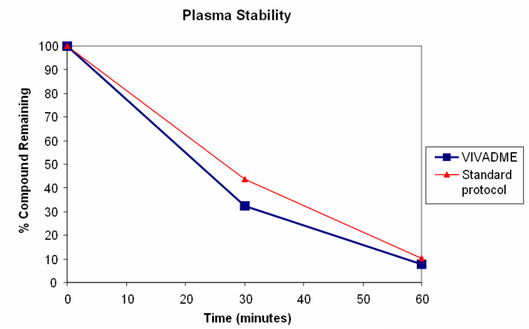
The vivADME microfluidcs solution means:

1. ADME profiling in minutes
2. Micrograms samples
3. Walk-up system
4. Very low cost test per sample
5. Easy-to-use open access

2. Microsomal Stability



3. Plasma Stability



Rapidly obtained VivADME results (blue lines) correlate well with more intensive ADME results (red lines) obtained via standard protocols.