

# World Congress and Exhibition on **Antibiotics**

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## **John J S Cadwell**

*FiberCell Systems Inc., USA*

### **The hollow fiber infection model for antimicrobial pharmacodynamics and pharmacokinetics**

The recent introduction of hollow fiber bioreactor cartridges represents an important advancement in the field of in vitro toxicology. Many toxicologists believe in vitro testing methods are a useful, time and cost effective tool for drug discovery but it is generally accepted that many of the available tests are not effective for examining both time and concentration, and do not closely mimic human kinetics. This is because they do not properly take into account pharmacodynamic actions (what a drug does to the body) and pharmacokinetic actions (what a body does to the drug). Recently, with the use of hollow fiber bioreactor cartridges, this has changed. The hollow fiber infection model is a useful addition to standard in vitro toxicology methods as it mimics changes in drug concentration over time, as they would occur in humans. An overview of historic pk/pd models is presented and the utility of the hollow fiber infection model as it relates to antibiotics and other drugs are discussed.

### **Biography**

John J S Cadwell received his degree in Pharmacology from the University of Miami in 1981. Since that time he served in various sales, marketing and business development capacities until founding FiberCell System in 2000. As president and CEO he has filed and been issued three patents in the field of hollow fiber bioreactors and authored many publications in the field.

[jjcadwell@comcast.net](mailto:jjcadwell@comcast.net)

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