

2009 Fall Semester Seminar Series

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Rational design and development of microbicide gels - based on in vitro deployment characteristics

We are interested in developing vaginally applied products called Microbicides, for the topical delivery of anti-HIV agents, to provide protection against heterosexual transmission of HIV-1. Traditionally vaginal gels have largely been designed using empirical methods and subjective assessments, due to inadequate recognition of the deterministic role delivery vehicles have in the overall effectiveness of a vaginal gel. In the absence of an objective methodology for in vitro gel design and optimization, we were interested in developing a rational approach that will allow accurate prediction of in vivo deployment and retention characteristics of the desired gel based on in vitro mechanical properties.

The optimized gel using the aforementioned algorithm was then formulated to provide sustained release of IQP 0528, a non-nucleoside reverse transcriptase inhibitor. Stability, release, and anti-viral activity of this formulation will be presented.

Based on our results, we are confident that the methodology developed in this work is a promising tool for the in vitro optimization of vaginal gels, as well as useful in predicting the performance of microbicide gels, prior to in vivo investigations.

Date Monday, November 2, 2009
Time 4:00 PM
Place 4100B HSEB