

Meeting Report: AAPS Workshop on “Dissolution Testing, Biowaivers and Bioequivalence” in Zagreb, Croatia

e-mail: vgray@rcn.com

Vivian Gray

Dissolution Technologies, Hockessin, DE, USA

The workshop in Zagreb, Croatia, was held at the PLIVA Research Institute Ltd. Conference Hall on October 3 and 4, 2011, with all presentations given in English. All sessions were followed by Q and A panel discussions.

Opening remarks were given by **Maja Jakševac Mikša** from the Croatian Pharmaceutical Society, followed by four speakers in the morning session. The first talk, “Dissolution Testing—a Powerful Tool in Drug Development,” was given by **Dragica Raušl** from **Pliva**. She set the stage for the workshop by providing the purpose, definitions, and terminology of the dissolution test and giving descriptions and case studies of the four classifications in the Biopharmaceutics Classification System (BCS). Then **Vivian Gray** from **V. A. Gray Consulting** gave a presentation titled “General Concepts—Design of Dissolution Method Development, including Quality by Design (QBD).” She discussed principles needed to develop a meaningful dissolution test, one that follows the concepts of QbD. After the break, **Marija Bogotaj** of the **University of Ljubljana**, Slovenia, discussed “Non-Compensated Approaches to Dissolution Testing.” She gave examples of noncompensated devices that have been reported and discussed devices that could provide gastric-emptying kinetics. She showed a unique device that simulated peristaltic movement using glass beads in a beaker-like device with media. The session ended with a presentation by **Nikoletta Fotaki** of the **University of Bath**, UK, on “Predictive Dissolution Testing and Development of IVIVCs.” Her presentation discussed how predictive dissolution can be useful through all stages of product development, especially early stages, and how accurate in vitro simulation of the GI tract (through media and hydrodynamics) can lead to successful IVIVC–IVIVR.

In the afternoon, **Vivian Gray** spoke about GMPs in the Dissolution Lab, and **Terry Way, USP** (European office), discussed “The Role of Dissolution Testing: USP Perspective.”

The second day began with a talk by **Johannes Krämer** of **PHAST**, Homburg, Germany, on “Disintegration Instead of Dissolution: A Case Study.” His talk illustrated how a disintegration test could be used as the regulatory test instead of the dissolution test. He gave a case study that employed the use of Statistical Moment Theory: Mean Time to justify the regulatory disintegration test with regulatory authorities. Then **Selvira Zulfikari**, from **HALMED**, Croatia, spoke on the Croatian Regulatory

Perspective. **Evangelos Kotzagiorgis** from the **EMA** discussed the European Regulatory Perspective on dissolution testing. In the afternoon, **Johannes Krämer** returned with a talk on “Examination of Level B Correlations with a BCS Class 2 Immediate-Release Formulation.” He presented a case study using multisource propafenon film-coated tablets where the use of level B correlation of mean times provided an IVIVC. **Nikoletta Fotaki** discussed “From Dissolution to BA/BE Studies.” She gave case studies where modeling and appropriate in vivo data led to successful development of IVIVCs. The workshop ended with **Senka Radošević** from **Pliva** speaking on “Importance of Study Design and Metrics for the Proof of Bioequivalence.” She discussed how advancements in methods for IVIVC and predictions can provide essential tools to accelerate development of generic drugs. In the case when in vitro behavior is not a key to in vivo response, it is possible to compensate by planning the most suitable study design and metrics to be utilized for the demonstration of equivalence. Vivian Gray closed the workshop with remarks of thanks to the Croatian organizers and speakers and appreciation for the fine hospitality shown to the Focus Group speakers. She also thanked **Maja Jakševac Mikša** for the tour of the Croatian Pharmaceutical Society building.

There were about 80 attendees from five countries: Croatia, Serbia, Slovenia, Montenegro, and Bosnia and Herzegovina.



Workshop participants from left to right: Evangelos Kotzagiorgis, Marija Bogotaj, Johannes Krämer, Maja Jakševac Mikša, Biserka Cetina-Čizmek, Nikoletta Fotaki, Vivian Gray, Dragica Raušl, Marijana Erceg, and Terry Way.