Kinetics for Drug Discovery (K4DD)

Research Areas

- Basic Research

At a Glance

- Status: Active Consortium
- Year Launched: 2012
- Initiating Organization: Innovative Medicines Initiative
- Initiator Type: Government
- Location: Europe

Abstract

Drugs work by binding with molecules in the body and to either block or alter the action of the target molecule. The goal of the Kinetics for Drug Discovery (K4DD) project is to improve understanding of how potential drugs bind with their target and to develop methods and tools to allow researchers to study drug-target interactions with greater ease. These tools would help researchers to determine whether a drug candidate is likely to be safe and effective much earlier in the drug development process. The expected duration of the project is 60 months.

Mission

The first goal of the K4DD team is to enhance understanding of binding kinetics: exactly how do small molecules interact with their targets?

Ultimately, the project aims to develop a range of robust techniques, methods, and models that could be easily incorporated into the drug development pathway and enable scientists and drug designers worldwide to reliably predict a molecule’s kinetic properties (i.e., its kinotype). This information will allow drug developers to more easily determine the safety and efficacy of a molecule. In the long run,
this will weed out ineffective or unsafe molecules earlier in the drug development process.

Consortium History

Jan. 11, 2010: Project started
2014: K4DD featured as cover story “Bound to work better” in the Pharmaceutical Journal

Structure & Governance

The organizational chart includes a General Assembly consisting of one representative per partner, a chair who also serves as the coordinator, and a co-chair/managing entity. Accountable to the General Assembly and each other are the Executive Board and the Project Management Team. Accountable to the Executive Board and the Project Management Team are Work Packages 1 to 4. Accountable to all previously mentioned groups are the Target Foster Committee, Ethics Advisory Committee, and Scientific Advisory Board.

The General Assembly are responsible for decision-making. The Executive Board and the Project Management Team are responsible for day-to-day management. The Target Foster Committee, Ethics Advisory Committee, and Scientific Advisory Board play the role of advisor to the previously mentioned governing groups.

The project coordinator is Anke Müller-Fahrnow, Bayer Pharma AG. The managing entity is represented by Ad Ijzerman, Universiteit Leiden. The program office is represented by Ester Frische, TI Pharma.

Financing

This project is funded by the Innovative Medicines Initiative (IMI), a public-private partnership between the European Union (EU) and the European Federation of Pharmaceutical Industries and Associations (EFPIA), resources of which are composed of financial contribution from the EU Seventh Framework Programme and EFPIA companies’ in kind contribution. Large pharmaceutical companies participating in IMI projects do not receive IMI funding. IMI funding is €8.3 million, EFPIA in kind funding is €9.8
million, and other funding is €2.8 million, for a total cost of €20.9 million.

**Intellectual Property**

The IMI intellectual property (IP) policy governs the IP regime of all projects funded by the IMI Joint Undertaking. To assist with specific IP queries, IMI has set up a dedicated IP Helpdesk, which can be contacted by emailing IMI-IP-Helpdesk@imi.europa.eu. The IMI IP policy can be accessed at http://www.imi.europa.eu/sites/default/files/uploads/documents/imi-ipr-policy01august2007_en.pdf

**Data Sharing**

According to IMI’s IP policy, the participants undertake to disseminate the data as soon as reasonably practicable but not later than one year after the termination or expiry of the project. The project agreement shall include a description of the material, which must be disseminated in accordance with the IP policy and referenced in the grant agreement. If the participants do not disseminate within such time periods without good reason, then the Executive Office has the right to disseminate such results in a manner consistent with the grant agreement.

**Impact/Accomplishment**

Eventually, the project also hopes to raise awareness of the importance of considering the kinetic aspects of drug-target interactions throughout drug development.

For patients, the benefits of K4DD lie in its efforts to accelerate and improve the drug development process.

**Links/Social Media Feed**

- **Homepage**: [http://www.k4dd.eu/](http://www.k4dd.eu/)
- **Other website**: [http://www.imi.europa.eu/content/k4dd](http://www.imi.europa.eu/content/k4dd)
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