Systems Biology towards novel chronic kidney disease diagnosis and treatment (SYSKID)

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Research Areas

Biomarker Research
Diagnostic

Basic Research

At a Glance

- Status: **Active Consortium**
- Year Launched: **2010**
- Initiating Organization: **European Commission Seventh Framework Programme (FP7)**
- Initiator Type: **Government**
- Location: **Europe**

Abstract

The Systems Biology towards novel chronic kidney disease diagnosis and treatment (SysKid) consortium is focused on expanding the basic science of chronic kidney disease. The project paves the way for progress in prevention, new diagnostic strategies, and treatment options for declining kidney function, which affects millions of patients suffering from diabetes and hypertension.

Mission

The Systems Biology towards novel chronic kidney disease diagnosis and treatment (SysKid) consortium is focused on expanding the basic science of chronic kidney disease. It plans to exploit recent advancements in theoretical as well as experimental concepts and methodologies in systems biology and systems medicine. By integrating high-throughput molecular analysis tools, functional studies in-vitro as well as in-vivo, computational biology models, and simulations, together with clinical and epidemiological data, the consortium aims to study chronic kidney disease (CKD) in the context of diabetes and hypertension.

The major aims of the SysKid consortium:

Aim 1: Identify persons at risk of developing chronic kidney disease utilizing epidemiology as well as molecular tools.

Aim 2: Understand the molecular processes triggering early-stage chronic kidney disease and identify associated biomarkers.

Aim 3: Develop novel diagnostic and therapeutic strategies to control progression of chronic kidney disease.

Aim 4: Perform pre-clinical verification of novel therapy approaches and perform clinical testing of novel diagnostics.

In order to accomplish SysKid's aims the following subordinate objectives are defined:

Objective 1: Integrate existing and extend clinically well-defined sample cohorts of patients with chronic kidney disease.

Objective 2: Establish and unify a broad 'omics' repository characterizing CKD.

Objective 3: Decipher processes, molecular pathways, and associated CKD biomarkers utilizing a systems biology approach.

Objective 4: Use cell cultures and animal models to deepen our understanding of identified processes associated with early CKD.

Objective 5: Delineate novel therapeutic strategies and pre-clinical evaluation for prevention and slowing of progression of chronic renal disease.

Objective 6: Clinical validation of identified biomarkers for generating early-stage diagnosis and prognosis IVD kits.

Objective 7: Delineate a novel risk score for the development of chronic kidney disease.

Objective 8: Deepen our understanding of the epidemiological aspects of early CKD with particular focus on consequences for healthcare policies.

Financing

EU FP7, Project reference: 241544, Total cost: EUR 15,743,594

Homepage	http://www.syskid.eu/
Facebook	https://www.facebook.com/pages/SysKid/264637326978013

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