

Biomarker for Cardiovascular Risk Assessment in Europe (BiomarCaRE)

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Research Areas



Biomarker Research

Diagnostic

At a Glance

- Status: **Active Consortium**
- Year Launched: **2011**
- Initiating Organization: **European Commission Seventh Framework Programme (FP7)**
- Initiator Type: **Government**
- Location: **Europe**

Abstract

BiomarCaRE is a collaborative research project that integrates clinical, epidemiological, and biomarker research, as well as commercial enterprises throughout Europe, North America, and Australia. The BiomarCaRE project aims to determine the additional value of multiple (new) biomarkers to improve risk estimation of cardiovascular diseases (CVD)-related events in Europe. Ultimately, our BiomarCaRE consortium will develop a "European biomarker panel" for CVD prediction including the classical risk factors and established and novel biomarkers.

Mission

Biomarkers are considered as tools to enhance cardiovascular risk estimation. However, the value of biomarkers on risk estimation beyond European risk scores, their comparative impact among different European regions, and their role in the drive toward personalized medicine remain uncertain. Based on harmonized and standardized European population cohorts, BiomarCaRE has built significant research collaboration, expertise, and infrastructure in the European Union (EU). The consortium will apply

highly innovative SME-driven technologies and perform large-scale biomarker determination to assess the predictive value of existing and emerging biomarkers.

Selection of emerging biomarkers will be based on integrated cutting-edge quantitative proteomic, transcriptomic, metabolomic, and miRNomic datasets established by private and public consortium members that will be disclosed to this consortium. Existing biomarkers will be selected based on non-redundancy and their association with cardiovascular risk and phenotypes. After SME-guided development of innovative assay systems, biomarkers will be tested and validated in a step-wise fashion among European populations in primary and secondary prevention. In addition to their impact on risk prediction, their association with lifestyle determinants and cardiovascular phenotypes assessed by ultrasound and MRI technique will be evaluated.

A BiomarCaRE panel will be established, leading to improved disease prediction among different European populations. International collaborations with world-class clinical trial investigators will add data on the interaction of the BiomarCaRE panel with risk-lowering medication and lifestyle changes. The outcome of SME-driven technology development and clinical validation will undergo a medical technology assessment. The determination of cost-effectiveness will guide further clinical evaluation. These studies will reveal new methods of improved cardiovascular risk estimation and will open the path toward personalized medicine.

Financing

It is a research project co-funded under the European Unions' Seventh Framework Programme.

Homepage

<http://www.biomarcare.eu/>

Sponsors & Partners

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IRCCS Istituto Neurologico Mediterraneo

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