Technology Transfer Opportunity

Biomarkers for Early Detection of Cardiac Disease

OPPORTUNITY:
A panel of biomarkers for early diagnosis of patients with underlying heart disease.

Description of Technology:
The invention provides a selection of novel markers for prognosis and diagnosis of early ventricular dysfunction, heart failure and other cardiovascular indications.

Value Proposition:
Cardiovascular diseases are amongst the leading causes of premature death. Over €100 billion is spent annually on the diagnosis, treatment and rehabilitation of affected patients in Europe alone. Early detection of the disease as well as improved confidence in drug targets is crucial to improve patient life expectancy and to enable cost-effective decision making.

Examination of coronary sinus serum proteome of high and low risk asymptomatic hypertensive patient cohorts identified a series of differentially expressed, cardiac disease-associated proteins. These protein markers have the potential to detect and predict cardiovascular diseases including ventricular dysfunction and heart failure.

Further investigation of a selected marker revealed that this protein is expressed within the myocardium. It is associated with the expression of inflammatory cytokines and fibrotic markers suggesting a functional link to myocardial fibrosis. Furthermore, it was demonstrated that over-expression of this particular marker in asymptomatic patients at risk of developing heart failure is independent of age, sex or the presence of currently used cardiac markers for established disease. These results highlight the biomarker's significant predictive power for cardiac conditions.

The identified cardiac biomarkers will find their utility:

- in the prognosis of asymptomatic patients at risk of developing cardiac/cardiovascular symptoms
- in the diagnosis of existing cardiac/cardiovascular conditions and in monitoring of disease progression
- as potential therapeutic targets for the treatment of cardiovascular indications
- as potential companion diagnostics to evaluate efficacy of drug treatments.

Market:
Cardiovascular market, biotech and pharmaceutical industry with interest in biomarkers/new targets.

Inventors:
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Status:
An Irish priority patent application was filed in January 2010.

Publication:
Watson C J *et al.*, (2010) submitted manuscript

Opportunity Sought:
Available for licensing

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