

Companies are sought for a license agreement of biomarkers for the early detection of subclinical atherosclerosis

Summary

Profile type	Company's country	POD reference
Technology offer	Spain	TOES20230901001
Profile status	Type of partnership	Targeted countries
PUBLISHED	Investment agreement Research and development cooperation agreement	• World
Contact Person	Term of validity	Last update
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General Information

Short summary

One of the main problems of atherosclerosis disease is that it is diagnosed too late. There is a need to find new biomarkers for subclinical atherosclerosis, which are independent of traditional cardiovascular risk factors and scores. Three Spanish research institutions have discovered a panel of proteins that could be used to predict the presence of subclinical atherosclerosis. Diagnosis/biotech companies are sought for a license agreement.

Full description

One of the challenges associated to the clinical management of atherosclerotic disease is that it is diagnosed usually when the condition is very advanced and lesions are already irreversible, or when it has caused clinical signs or events in organs or territories vascularized by the diseased arteries.

There is a need to find new biomarkers in plasma for the screening, diagnosis and/or monitoring of individuals presenting subclinical atherosclerosis, preferably markers independent of traditional cardiovascular risk factors and scores.

The researchers of the three Spanish research institutions have carried out the deepest and largest mass spectrometry-based plasma proteomics analysis to date in the search for atherosclerosis-related biomarkers. Firstly, they did a first analysis using a proteomics platform in samples of 444 asymptomatic middle-aged individuals and a second analysis in a 3-year follow-up, identifying a set of putative biomarker proteins whose association with atherosclerosis remained stable over time. In addition, they validated this panel in another cohorts from Europe

(3000 subjects) and USA (6000 subjects). As a result, the researchers have discovered a set of protein biomarkers in plasma that are associated to subclinical atherosclerotic disease independently of each other, and of established cardiovascular risk factors.

Almost 60% of the asymptomatic individuals classified as low risk by traditional risks scores such as Framingham Heart Study 10-year (FHS) have subclinical atherosclerosis. The protein panel was able to predict the presence of subclinical atherosclerosis even in this low risk population. The use of this biomarker panel could improve the prediction of the presence of atheroma plaques.

The Research Centers are seeking for biotech or pharmaceutical companies working in new diagnosis related to cardiovascular diseases to cooperate under investment or research and development agreements.

Advantages and innovations

- A panel of protein biomarkers were associated with subclinical atherosclerosis disease independently of each other and of established cardiovascular risk factors. Moreover, these proteins accumulate in the atheroma plaques themselves even in their earliest stages of formation.
- The combination of at least 3 of these biomarkers is a new tool for the screening, diagnosis and/or monitoring of subclinical atherosclerosis.
- The protein levels could be measured using a kit, which could be incorporated in hospitals and in companies that offer biochemical analysis of plasma samples. The commercial kit would include an algorithm that, once measured the levels of the proteins, determines whether the subject has atherosclerosis.

Technical specification or expertise sought

Stage of development

Lab tested

IPR Status

IPR applied but not yet granted

Sustainable Development goals

- **Goal 8: Decent Work and Economic Growth**
- **Goal 9: Industry, Innovation and Infrastructure**
- **Goal 5: Gender Equality**
- **Goal 4: Quality Education**
- **Goal 3: Good Health and Well-being**

Partner Sought

Expected role of the partner

The Research Centers are seeking for biotech or pharmaceutical companies working in new diagnosis related to cardiovascular diseases. The partner would license the patent family and complete all the steps needed to

commercialize the technology.

Type of partnership

Investment agreement

Research and development cooperation agreement

Type and size of the partner

• **Big company**

• **SME 50 - 249**

• **SME <=10**

• **SME 11-49**

Dissemination

Technology keywords

- **03004007 - Pharmaceuticals**
- **06001011 - Heart and blood circulation illnesses**
- **06001005 - Diagnostics, Diagnosis**

Targeted countries

- **World**

Market keywords

- **05005010 - Cardiology**
- **005001008 - Diagnostic test products and equipment**
- **04014 - Bioinformatics**
- **04009 - In vitro Testing, Trials**

Sector groups involved

- **Health**