Rapid Aptamer based diagnostics for bacterial meningitis

Fact Sheet

Project Information

RAPTADIAG

Grant agreement ID: 304814

Project website

Project closed

Start date
1 July 2012

End date
31 December 2015

Funded under
Specific Programme "Cooperation": Health

Total cost
€ 2 975 066,82

EU contribution
€ 2 174 503,25

Coordinated by
UNIVERSIDAD POLITECNICA DE MADRID
Spain

Objective

The overall objective of this proposal is to develop a fast and cost-effective diagnostic tool for bacterial meningitis, i.e. the detection of Streptococcus pneumoniae and Neisseria meningitidis in cerebrospinal fluid.
Kits, consisting of disposable sensing chips and separate detector units, will be developed. The tool shall be low priced and easy to use so that health workers with limited analytical training can employ the kits in the field
The tool shall lead to a faster diagnosis, speeding up a targeted antibiotics treatment, thus improving the survival chances of the patient, while facilitating the identification of the infection source and the isolation of individuals, in order to halt the epidemics
The main project novelty is the use of aptamer receptors. Aptamers have several

advantages over conventional antibodies e.g. significantly lower price, fast development and increased stability.
Three sensor technologies will be developed aiming to obtain at least one commercial product by the end of the project. All technologies share the same aptamers and surface activation of the active area.
The project success depends on a tight and well-planned collaboration between partners. Partner 1 will develop the S. pneumoniae and N. meningitidis aptamers, and will provide already available micro-organism specific aptamers for parallel sensor development.
The near-market technology is evanescent fluorescence, already commercialised by Partner 2. Adaptation of the aptamers and of the Eva-Sensor Chip, will be done and validated in collaboration with Partners 1 & 3.
Partner 1 will develop sensors based on microelectromechanical systems and liquid crystals. Either of these–acoustic and volumetric– technologies have, with limited commercial success, been used with molecular targets. Compared hereto targeting micro-organisms generate amplified signals. Partner 3 will design the fluidic chip incorporating the sensor. The resulting system will be commercialised by Partners 2 & 3

Fields of science (EuroSciVoc)

medical and health sciences > basic medicine > pharmacology and pharmacy > pharmaceutical drugs > **antibiotics**

engineering and technology > electrical engineering, electronic engineering, information engineering > electronic engineering > **sensors**

natural sciences > biological sciences > **microbiology**

engineering and technology > materials engineering > **liquid crystals**

Programme(s)

FP7-HEALTH - Specific Programme "Cooperation": Health

Topic(s)

HEALTH.2012.2.3.0-1 - Diagnostics for infectious diseases in humans

Call for proposal

FP7-HEALTH-2012-INNOVATION-2
See other projects for this call

Funding Scheme

CP-FP - Small or medium-scale focused research project

Coordinator

UNIVERSIDAD POLITECNICA DE MADRID

EU contribution

€ 1 062 578,28

Total cost

No data

Address

CALLE RAMIRO DE MAEZTU 7 EDIFICIO RECTORADO
28040 Madrid
Spain

Region

Comunidad de Madrid > Comunidad de Madrid > Madrid

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Participants (3)

DAVOS DIAGNOSTICS AG

Switzerland

EU contribution

€ 890 631,40

Address

OBERE STRASSE 22
7270 DAVOS PLATZ

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

JONSMAN INNOVATION APS

Denmark

EU contribution

€ 183 208,40

Address

HOVEDVEJEN 1d
3330 GORLOSE

Region

Danmark > Hovedstaden > Nordsjælland

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

BIOAPTER SOCIEDAD LIMITADA

Spain

EU contribution

€ 38 085,17

Address

CALLE FORMENTERA EDIFICIO LAS ROZAS LOCAL 5 3
28230 LAS ROZAS MADRID

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

Last update: 6 September 2024

Permalink: https://cordis.europa.eu/project/id/304814