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Innovative, mechanistic-based strategies for delivery of therapeutic macromolecules across cellular and biological barriers

Fact Sheet

Project Information

PathChooser

Grant agreement ID: 608373

Project closed

Start date

1 October 2013

End date

30 September 2017

Funded under

Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

Total cost

€ 3 036 614,02

EU contribution

€ 3 036 614,02

Coordinated by

UNIVERSITY COLLEGE DUBLIN,
NATIONAL UNIVERSITY OF
IRELAND, DUBLIN

 Ireland

This project is featured in...



Nanomedicine – innovative ways of treating challenging conditions

Objective

Nanomedicine offers capability to significantly change the course of treatment for life-threatening diseases. Many of the most significant current therapeutic targets, to be viable in practice, require the efficient crossing of at least one biological barrier. However, the efficient and controlled crossing of the undamaged barrier is difficult. The range of small molecules that can successfully do so (via diffusive or other non-specific processes) is limited in size and physiochemical properties, greatly restricting the therapeutic strategies that may be applied. In practice, after several decades of limited success, there is a broad consensus that new multi-disciplinary, multi-sectoral strategies are required. Key needs include detailed design and understanding of the bionano-interface, re-assessment of in vitro models used to assess transport across barriers, and building regulatory considerations into the design phase of nanocarriers.

The overarching premises of the PathChooser ITN are that (i) significant advances can only be made by a more detailed mechanistic understanding of key fundamental endocytotic, transcytotic, and other cellular processes, especially biological barrier crossing; (ii) elucidating the Mode of Action / mechanism of successful delivery systems (beyond current level) will ensure more rapid regulatory and general acceptance of such medicines. Paramount in this is the design and characterization of the in situ interface between the carrier system and the uptake and signalling machinery. (iii) inter-disciplinary knowledge from a range of scientific disciplines is required to launch a genuine attack on the therapeutic challenge. The PathChooser ITN program of research and training will equip the next generation of translational scientists with the tools to develop therapies for a range of currently intractable (e.g. hidden in the brain) and economically unviable diseases (e.g. orphan diseases affecting a limited population).

Fields of science (EuroSciVoc)

[medical and health sciences](#) > [medical biotechnology](#) > [nanomedicine](#)



Programme(s)

[FP7-PEOPLE - Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities \(2007 to 2013\).](#)

Topic(s)

[FP7-PEOPLE-2013-ITN - Marie-Curie Action: "Initial Training Networks"](#)

Call for proposal

FP7-PEOPLE-2013-ITN
[See other projects for this call](#)

Funding Scheme

[MC-ITN - Networks for Initial Training_\(ITN\).](#)

Coordinator



UNIVERSITY COLLEGE DUBLIN, NATIONAL UNIVERSITY OF IRELAND, DUBLIN

EU contribution

€ 788 281,78

Total cost

No data

Address

BELFIELD

4 Dublin

 **Ireland** 

Region

Ireland > Eastern and Midland > Dublin

Activity type

Higher or Secondary Education Establishments

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Participants (8)



SYDDANSK UNIVERSITET

Denmark

EU contribution

€ 284 579,46

Address

CAMPUSVEJ 55
5230 Odense M

Region

Danmark > Syddanmark > Fyn

Activity type

Higher or Secondary Education Establishments

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

No data



HELMHOLTZ-ZENTRUM FUR INFEKTIONSFORSCHUNG GMBH

Germany

EU contribution

€ 222 068,88

Address

INHOFFENSTRASSE 7
38124 Braunschweig

Region

Niedersachsen > Braunschweig > Braunschweig, Kreisfreie Stadt

Activity type

Research Organisations

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

No data



KING'S COLLEGE LONDON

United Kingdom

EU contribution

€ 289 456,64

Address

STRAND
WC2R 2LS London

Region

London > Inner London — West > Westminster

Activity type

Higher or Secondary Education Establishments

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

No data



E.P.O.S. IASIS RESEARCH AND DEVELOPMENT LTD

Cyprus

EU contribution

€ 378 437,40

Address

KOSTI PALAMA 34 ASPELIA DIAM 5
1096 Lefkosia

Region

Κύπρος > Κύπρος > Κύπρος

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



MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN EV

Germany

EU contribution

€ 222 068,88

Address

HOFGARTENSTRASSE 8
80539 Munchen



Region

Bayern > Oberbayern > München, Kreisfreie Stadt

Activity type

Research Organisations

Links

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

Total cost

No data



UNIVERSITY OF BRISTOL

United Kingdom

EU contribution

€ 285 056,64

Address

BEACON HOUSE QUEENS ROAD
BS8 1QU Bristol 

Region

South West (England) > Gloucestershire, Wiltshire and Bristol/Bath area > Bristol, City of

Activity type

Higher or Secondary Education Establishments

Links

- [Contact the organisation](#)  [Website](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

No data



THE UNIVERSITY OF MANCHESTER

 United Kingdom

EU contribution

€ 285 056,64

Address

OXFORD ROAD
M13 9PL Manchester 

Region

North West (England) > Greater Manchester > Manchester

Activity type

Higher or Secondary Education Establishments

Links

- [Contact the organisation](#)  [Website](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

No data



AvantiCell Science Ltd

 United Kingdom

EU contribution

€ 281 607,70

Address

GIBBSYARD BUILDING

KA6 5HW Ayr 

Region

Scotland > Southern Scotland > South Ayrshire

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

Last update: 31 March 2016

Permalink: <https://cordis.europa.eu/project/id/608373>

European Union, 2025