Accelerating drug repurposing for rare neurological, neurometabolic and neuromuscular disorders by exploiting SIMilarities in clinical and molecular PATHology

Fact Sheet

Project Information

SIMPATHIC
Grant agreement ID: 101080249

DOI
10.3030/101080249

Funded under
Health

Total cost
€ 8 827 970,00

EU contribution
€ 8 826 970,00

Start date
1 July 2023

End date
30 June 2028

STICHTING RADBOUD UNIVERZITAIR MEDISCH CENTRUM

Netherlands

Objective

Drug repurposing can fill an important gap for rare disease patient groups with large unmet medical needs. In comparison to traditional drug development, drug repurposing reduces the time and costs for drug development, regulatory approval, and market authorization. Yet, we need to increase the efficiency of the drug repurposing pathway to provide broader access to new therapeutic modalities for
larger groups of patients. SIMPATHIC’s main objective is to accelerate drug repurposing for rare neurological, neurometabolic and neuromuscular disorders. SIMPATHIC’s main accelerating innovation is the simultaneous drug development for groups of patients with different genetic diagnoses but overlapping neurological symptoms and molecular pathomechanisms. SIMPATHIC’s key outputs accelerating the drug repurposing pathway include: Standard operating procedures for culturing stem cell-derived neuronal cell models with proven relevance for clinical symptoms and amenable to high-throughput drug screens; New drug repurposing candidates with proven efficacy in advanced brain-on-a-chip and 3D brain organoid models, as demonstrated by reversal of molecular biomarker signatures and cellular readouts associated with clinical symptoms; Designs of innovative basket clinical trials to which patients with different disorders are recruited, utilizing and aggregating personalized clinical endpoints; A training module for patients and patient organizations to empower them as drivers of the drug repurposing pathway; Blueprints for intellectual property strategies, business models, regulatory dossiers and patient access strategies, developed in co-creation between all relevant stakeholders. SIMPATHIC’s proof-of-concept for the simultaneous development of repurposed drugs for multiple indications will show the path forward to development of personalized treatment opportunities for groups of rare disease patients in a cost- and time-efficient manner.

**Fields of science**

medical and health sciences > basic medicine > pharmacology and pharmacy > drug discovery
social sciences > economics and business > business and management > business models
medical and health sciences > basic medicine > pathology

**Keywords**

Drug repurposing  organoids  innovative clinical trials  artificial intelligence
patient registries  patient access  FAIR data

**Programme(s)**

HORIZON.2.1 - Health  MAIN PROGRAMME
HORIZON.2.1.3 - Non-Communicable and Rare Diseases
**Topic(s)**

HORIZON-HLTH-2022-DISEASE-06-04-two-stage - Development of new effective therapies for rare diseases

**Call for proposal**

HORIZON-HLTH-2022-DISEASE-06-two-stage

See other projects for this call

**Funding Scheme**

HORIZON-RIA - HORIZON Research and Innovation Actions

**Coordinator**

STICHTING RADBOUD UNIVERSITAIR MEDISCH CENTRUM

Net EU contribution

€ 1 810 090,00

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Geert grooteplein 10 zuid
6525 GA Nijmegen
Netherlands 🇳🇱

Region

Oost-Nederland > Gelderland > Arnhem/Nijmegen

Activity type

Higher or Secondary Education Establishments

Links

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

Other funding

€ 0,00

**Participants (19)**
ACADEMISCH MEDISCH CENTRUM BIJ DE UNIVERSITEIT VAN AMSTERDAM
Netherlands
Net EU contribution
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West-Nederland > Noord-Holland > Groot-Amsterdam
Activity type
Higher or Secondary Education Establishments
Links
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Other funding
€ 0,00

FONDATION MALADIES RARES
France
Net EU contribution
€ 435 000,00
Address
Rue didot 96
75014 Paris
Region
Ile-de-France > Ile-de-France > Paris
Activity type
Other
Links
Contact the organisation Participation in EU R&I programmes HORIZON collaboration network
**EBERHARD KARLS UNIVERSITAET TUEBINGEN**

*Germany*

Net EU contribution

€ 596 700,00

Address

Geschwister-scholl-platz
72074 Tuebingen

Region

Baden-Württemberg > Tübingen > Tübingen, Landkreis

Activity type

Higher or Secondary Education Establishments

Links

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

Other funding

€ 1 000,00

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**"NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS""**

*Greece*

Net EU contribution

€ 315 000,00

Address

End of patriarchou grigoriou e and 27 neapoleos street
15341 Agia paraskevi

Region

Αττική > Αττική > Βόρειος Τομέας Αθηνών

Activity type

Research Organisations

Links
UNIVERZA V LJUBLJANI

Slovenia

Net EU contribution

€ 275 805,00

Address

Kongresni trg 12
1000 Ljubljana

Region

Slovenija > Zahodna Slovenija > Osrednjeslovenska

Activity type

Higher or Secondary Education Establishments

Other funding

€ 0,00

EATRIS ERIC

Netherlands

Net EU contribution

€ 515 000,00

Address

De boelelaan 1118
1081 HZ Amsterdam

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West-Nederland > Noord-Holland > Groot-Amsterdam

Activity type
FAIR DATA SYSTEMS SL
Spain
Net EU contribution
€ 320 750,00
Address
Calle corazón de maría 9
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SME
Yes
Region
Comunidad de Madrid > Comunidad de Madrid > 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
Other funding
€ 0,00

UNIVERSITATSKLINIKUM HEIDELBERG
Germany
Net EU contribution
€ 518 425,00
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Im neuenheimer feld 672
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Baden-Württemberg > Karlsruhe > Heidelberg, Stadtkreis

Activity type
Higher or Secondary Education Establishments

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

Other funding
€ 0,00

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Faculdade de Farmácia da Universidade de Lisboa

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Net EU contribution
€ 315 000,00

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Region
Continente > Área Metropolitana de Lisboa > Área Metropolitana de Lisboa

Activity type
Higher or Secondary Education Establishments

Links
Contact the organisation
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Other funding
€ 0,00

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UNIVERSITE DU LUXEMBOURG

Luxembourg

Net EU contribution
€ 558 000,00
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Luxembourg > Luxembourg > Luxembourg
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Higher or Secondary Education Establishments
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Other funding
€ 0,00

APTEEUS
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€ 421 250,00
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Hauts-de-France > Nord-Pas de Calais > Nord
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
Other funding
€ 0,00
HEINRICH-HEINE-UNIVERSITAET DUESSELDORF

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€ 430,000,00
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40225 Dusseldorf

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Nordrhein-Westfalen > Düsseldorf > Düsseldorf, Kreisfreie Stadt
Activity type
Higher or Secondary Education Establishments

Links
Contact the organisation  
Website  
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Other funding
€ 0,00

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€ 244,500,00
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167 77 Athina

SME
Yes
Region
Αττική > Αττική > Νότιος Τομέας Αθηνών
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links
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Other funding
€ 0,00

STICHTING VUMC
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€ 414 160,00

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Research Organisations

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Other funding
€ 0,00

EURO-DYMA
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€ 59 625,00

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3743 JN Baarn

SME
Yes

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West-Nederland > Utrecht > Utrecht

Activity type
Other

CHILDREN'S HOSPITAL OF EASTERN ONTARIO RESEARCH INSTITUTE INC

Canada

Net EU contribution
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STICHTING EUPATI FOUNDATION
Netherlands
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€ 65 625,00
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West-Nederland > Utrecht > Utrecht
Activity type
Other
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Other funding
€ 0,00

CHARITE - UNIVERSITAETSMEZIDIN BERLIN
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Partners (2)

ELPEN PHARMACEUTICAL CO INC AE
Greece
Net EU contribution
€ 0,00
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Region
Αττική > Αττική > Ανατολική Αττική
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)
Links
Contact the organisation
Participation in EU R&I programmes
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Other funding
€ 0,00

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United Kingdom
Net EU contribution
€ 0,00

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12 broadbent close
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London > Inner London — East > Haringey and Islington

Activity type
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HORIZON collaboration network

Other funding
€ 0,00

EC signature date 5 April 2023
Last update: 29 June 2023

Permalink: https://cordis.europa.eu/project/id/101080249

European Union, 2023