

# Exploring cell-to-cell heterogeneity and exploiting epigenetic regulation for the interception of myeloid disease cells.

## Fact Sheet

### Project Information

#### **INTERCEPT-MDS**

Grant agreement ID: 953407

#### **Status**

Grant agreement signed

#### **Start date**

1 January 2021


#### **End date**

31 December 2024

**Funded under**  
H2020-EU.1.3.1.

**Overall budget**  
€ 3 120 455,88

**EU contribution**  
€ 3 120 455,88

**Coordinated by**  
FUNDACIO INSTITUT DE  
RECERCA CONTRA LA  
LEUCEMIA JOSEP CARRERAS  
 Spain

## Project description

### Advancing cell-based interceptive medicine for blood cancers

Disease interception is a novel concept and refers to treating a disease before it fully manifests. However, the identification and specific targeting of diseased cells amongst a population of healthy cells without side effects remains a challenge. The EU-funded INTERCEPT-MDS project will establish a multidisciplinary training programme to offer early-stage researchers the necessary expertise in the field. From a scientific perspective, the project will focus on myeloid blood cancers and use single-cell state-of-the-art methodologies to develop novel research tools that can

help identify clonally distinct cells. For targeting disease cells, the network will leverage European expertise in epigenetics and chromatin regulation. The project is expected to put the concept of disease interception to the test with the hope of improving clinical outcome for patients.

## **Objective**

Disease interception is a novel concept referring to treatment of a disease before the disease fully develops by removing altered cells. To make disease cell interception a reality we will need to overcome two key challenges. First, we will need to be able to identify few altered disease cells among many healthy ones. Second, we need to develop strategies that allow to specifically target disease cells but do not affect healthy cells. In the INTERCEPT-MDS ITN we propose to approach these challenges through research and the shared multidisciplinary and multisectorial training of 12 Early Stage Researchers (ESRs). As a result we will build and present some of Europe's first experts in the novel field of disease cell interception. We will take advantage of single-cell omics methods that have reached a level of maturity to be applied on a broad-scale. For interception, we will explore and exploit the epigenetic regulatory space and use our privileged access to tool compounds and our capacity to perform genetic screenings in vivo and in vitro. We will focus on myeloid diseases because they are a suitable paradigm for clonally evolving diseases and come with a major advantage. In contrast to most other diseases is the availability of stem cells, niche cells and their progeny through samples of the clinical routine. Finally, we will address technical challenges by developing novel research tools.

## **Field of science**

/medical and health sciences/medical biotechnology/cells technologies/stem cells

## **Programme(s)**

## **Topic(s)**

## **Call for proposal**

H2020-MSCA-ITN-2020

## **Funding Scheme**

## Coordinator



### FUNDACIO INSTITUT DE RECERCA CONTRA LA LEUCEMIA JOSEP CARRERAS

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[Website](#)

Activity type

**Research Organisations**

[Contact the organisation](#)

EU contribution

**€ 752 714,64**

## Participants (9)



### CHEMOTHERAPEUTISCHES FORSCHUNGSINSTITUT GEORG-SPEYER-HAUS STIFTUNG

Germany

EU contribution

**€ 252 788,40**

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Paul Ehrlich Strasse 42-44  
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Activity type

**Research Organisations**

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### VETERINAERMEDIZINISCHE UNIVERSITAET WIEN

Austria

EU contribution

**€ 264 207,24**

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Activity type

**Higher or Secondary  
Education Establishments**

[Contact the organisation](#)



### ERASMUS UNIVERSITAIR MEDISCH CENTRUM ROTTERDAM

Netherlands

EU contribution

**€ 265 619,88**

Address

Activity type

Dr Molewaterplein 40  
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Higher or Secondary  
Education Establishments

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### MLL MUNCHNER LEUKAMIELABOR GMBH

Germany

EU contribution

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Address

Max Lebsche Platz 31  
81377 Munchen

Activity type

Private for-profit entities  
(excluding Higher or  
Secondary Education  
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### UNIVERSITETET I BERGEN

Norway

EU contribution

€ 292 342,32

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5020 Bergen

Activity type

Higher or Secondary  
Education Establishments

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### BIOBAM BIOINFORMATICS SL

Spain

EU contribution

€ 250 904,88

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Activity type

Private for-profit entities  
(excluding Higher or  
Secondary Education  
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### KLINIKUM RECHTS DER ISAR DER TECHNISCHEN UNIVERSITAT MUNCHEN

Germany

EU contribution

€ 252 788,40

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**Ismaninger Strasse 22  
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Activity type

**Higher or Secondary  
Education Establishments**

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## **UNIVERSITA DEGLI STUDI DI FIRENZE**

 Italy

EU contribution

**€ 261 499,68**

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Activity type

**Higher or Secondary  
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## **INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE**

 France

EU contribution

**€ 274 802,04**

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Activity type

**Research Organisations**

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