Fact Sheet

Project Information

**LAPTOP**
Grant agreement ID: 245066

**Status**
Closed project

Funded under
FP7-KBBE

Overall budget
€ 3 762 796,40

EU contribution
€ 2 775 536

Coordinated by
New Anti-infective Consortium
Italy

This project is featured in...

RESEARCH*EU MAGAZINE
Water of life: desertification, access to clean water

Objective
The focus of this proposal is to develop an economically viable production process for the lantibiotic NAI-107, a new antibiotic with the potential to treat life-threatening infections caused by multidrug-resistant Gram-positive pathogens. NAI-107 is produced by fermentation of the actinomycete Microbispora sp., is undergoing formal toxicology studies and is expected to enter Phase I clinical trials in the second half of 2009. NAICONS, an SME participating in the project and acting as coordinator, is developing NAI-107. A challenge in advancing a new antibiotic into clinical development is to devise a production process that will deliver a high quality compound at reasonable yields. This is particularly relevant for NAI-107 since no lantibiotics are industrially produced as drugs for human use and there are no examples of industrial use of Microbispora. The development of a robust and economically feasible production process for NAI-107 requires the integration of basic knowledge of the physiology of the strain which can be best obtained by a combination of classical and post-genomic approaches (proteome/transcriptome), with a detailed knowledge of the production process and its scalability to industrial level. This will be achieved by flux analyses and 2D-maps for discovering primary metabolism proteins up-regulated during antibiotic production. Combined with a study of other limiting steps, such as precursor uptake, product excretion and the intrinsic resistance of the producing strain, and with analysis of the transcriptional regulation of the NAI-107 biosynthetic genes, bottlenecks in production will be identified and bypassed by metabolic engineering leading to an optimized metabolic pathway for the production of this life-saving antibiotic and an efficient production process utilizing a high producing strain, an improved production medium and an efficient recovery process.

**Field of science**

/工程与技术/工业生物技术/生物处理技术/发酵
/自然科学/生物科学/生物化学/生物分子/蛋白质
/医疗与健康科学/基础医学/毒理学
/工程与技术/工业生物技术/代谢工程
/医疗与健康科学/基础医学/生理学

**Programme(s)**

**Topic(s)**

**Call for proposal**

FP7-KBBE-2009-3
Funding Scheme

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

Coordinator

New Anti-infective Consortium

Address
Via Fantoli 16/15
20138 Milano
Italy

Activity type
Research Organisations

EU contribution
€ 553 400

Website

Contact the organisation

Administrative Contact
Margherita Sosio (Dr.)

Participants (6)

JOHN INNES CENTRE

United Kingdom

EU contribution
€ 450 118

Address
Norwich Research Park
Colney
NR4 7UH Norwich

Activity type
Research Organisations

Website

Contact the organisation

Administrative Contact
Mary Anderson (Dr.)

DANMARKS TEKNISKE UNIVERSITET

Denmark

EU contribution
€ 430 200

Address
Anker Engelundsvej 1
Bygning 101 A
2800 Kgs Lyngby

Activity type
Higher or Secondary Education Establishments

Website

Contact the organisation
<table>
<thead>
<tr>
<th>Administrative Contact</th>
<th>EU contribution</th>
<th>Activity type</th>
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<tr>
<td>Anna Eliasson Lantz (Dr.)</td>
<td>€ 347 400</td>
<td>Higher or Secondary Education Establishments</td>
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<tr>
<td>Piazza Marina 61 90133 Palermo</td>
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<td>Wolfgang Wohlleben (Prof.)</td>
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**Administrative Contact**

**UNIVERSITA DEGLI STUDI DI PALERMO**

Italy

EU contribution € 347 400

**Address**

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**Administrative Contact**

Anna Eliasson Lantz (Dr.)

**UNIVERSITATSKLINIKUM BONN**

Germany

EU contribution € 353 100

**Address**

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**Website [](#)**

**Administrative Contact**

Anna Maria Puglia (Prof.)

**EBERHARD KARLS UNIVERSITAET TUEBINGEN**

Germany

EU contribution € 476 318

**Address**

Geschwister-scholl-platz
72074 Tuebingen

**Website [](#)**

**Administrative Contact**

Beate Becker (Ms.)

**GNOSIS SPA**

Italy
EU contribution
€ 165 000

Address
Piazza Del Carmine 4
20121 Milano

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

Website

Administrative Contact
Marco Berna (Dr.)

Contact the organisation

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Record number: 94793

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