Sustainable industrial processes based on a C-C bond-forming enzyme platform

Informationsblatt

Projektinformationen

CARBAZYMES

ID Finanzhilfevereinbarung: 635595

Projektwebsite

Startdatum 1 April 2015
Enddatum 31 März 2019

Finanziert unter:
H2020-EU.2.1.4.

Gesamtbudget: € 9 251 355

EU-Beitrag € 8 202 966

Koordiniert durch:
TECHNISCHE UNIVERSITAT DARMSTADT
Deutschland

Ziel

C-C bond forming reactions are at the heart of industrial organic synthesis, but remain largely unexplored due to long development timelines and the lack of broad biocatalytic reaction platforms. CARBAZYMES addresses these challenges by assembling an interdisciplinary and intersectoral consortium as a powerful synergistic tool to promote innovation in the field of biocatalytic C-C bond formation at large scale, and thus the global competitiveness of the European chemical and pharmaceutical industry. The proposed consortium, with 50% industrial participation, represents academia but also commercial interests in different stages of the research-to-market process. This top-down approach, together with a life-cycle innovation approach ensures an industrial drive to the project.

Clearly aligned with the scope of topic BIOTEC3-2014, CARBAZYMES will pursue the biocatalytic synthesis (spanning TRLs 5-7) of 4 APIs and 3 bulk chemicals –corresponding to market needs detected by the industrial partners in the Consortium. This will be accomplished through an inter-disciplinary approach which includes: i) a broad platform of 4 types of unique C-C bond-forming enzymes, mostly lyases; ii) the capacity to rapidly evolve enzymes to operate under industrial conditions by means of novel enzyme panels and massive screening methods; iii) application of microreactor technology for bioprocess characterization; iv) demonstration actions comprising technical (up to 100L) and economic viability studies carried out by industrial partners.

CARBAZYMES unmistakably aims to have social and economic impact by addressing markets worth bn €, developing enzyme evolution technologies beyond the state of the art and creating qualified jobs and
technical-scale facilities at the industrial partners’ sites. CARBAZYMES will also achieve an environmental impact by enforcing that the developed processes replace more energy and resource intensive processes, thus leading to reduced environmental footprints.

**Wissenschaftliches Gebiet**

/social sciences/economics and business/business and management/commerce

**Programm/Programme**

H2020-EU.2.1.4. - INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies – Biotechnology

**Thema/Themen**

BIOTEC-3-2014 - Widening industrial application of enzymatic processes

**Aufforderung zur Vorschlagseinreichung**

H2020-LEIT-BIO-2014-1

Andere Projekte für diesen Aufruf anzeigen

**Finanzierungsplan**

IA - Innovation action

**Koordinator**

TECHNISCHE UNIVERSITAT DARMSTADT

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Website

Die Organisation kontaktieren

**Beteiligte** (14)
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<tr>
<td>AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS</td>
<td>€ 1 145 190</td>
<td>Calle Serrano 117, 28006 Madrid</td>
<td>Research Organisations</td>
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<tr>
<td>UNIVERSIDAD AUTONOMA DE MADRID</td>
<td>€ 786 375</td>
<td>Calle Einstein 3 Ciudad Univ Cantoblanco Rectorado, 28049 Madrid</td>
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<td>TECHNISCHE UNIVERSITAET BRAUNSCHWEIG</td>
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<td>RIJKSUNIVERSITEIT GRONINGEN</td>
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SVEUCILISTE U ZAGREBU FAKULTET KEMIJSKOG INZENJERSTVA I TEHNOLOGIJE

Kroatien

Adresse: Marulicev Trg 19
10000 Zagreb

Aktivitätstyp: Higher or Secondary Education Establishments

EU-Beitrag: € 544 260

Die Organisation kontaktieren

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BIOCHEMIZE SL

Spanien

Adresse: Carrer Marie Curie 8
08042 Barcelona

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

EU-Beitrag: € 207 987

Website

Die Organisation kontaktieren

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BIO-PRODICT BV

Niederlande

Adresse: Nieuwe Marktstraat 54
6511 Aa Nijmegen

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

EU-Beitrag: € 463 736

Website

Die Organisation kontaktieren

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SUSTAINABLE MOMENTUM SL

Spanien

Adresse: Avda Alcalde Jose Ramirez Bethencourt 17 Planta 6 Puerta B
35004 Las Palmas De Gran Canaria

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

EU-Beitrag: € 109 200

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<td>INSTITUT UNIV DE CIENCIA I TECNOLOGIA SA</td>
<td>€ 416 325</td>
<td>Calle Alvarez De Castro 63 08100 Mollet Del Valles</td>
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<td>Enzymicals</td>
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<td>Walther-Rathenau-Strasse 49a 17489 Greifswald</td>
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