CONNEXIN and pannexin channels as drug targets and biomarkers in acute and chronic liver disease

Dai 2014-03-01 al 2019-02-28, progetto concluso

Dettagli del progetto

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
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<tbody>
<tr>
<td>Costo totale:</td>
<td>EUR 1 473 928,80</td>
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<td>Contributo UE:</td>
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<td>Coordinato in:</td>
<td>Belgium</td>
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<tr>
<td>Argomento (i):</td>
<td>ERC-SG-LS7 - Applied life sciences, biotechnology and bioengineering:</td>
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<td></td>
<td>agricultural, animal, fishery, forestry/food sciences; biotechnology,</td>
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<td>chemical biology, genetic engineering, synthetic biology, industrial</td>
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<td>biosciences; environmental biotechnology.</td>
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<td>Invito a presentare proposte:</td>
<td>ERC-2013-StG  See other projects for this call</td>
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<td>Meccanismo di finanziamento:</td>
<td>ERC-SG - ERC Starting Grant</td>
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Obiettivo

The CONNECT project intends to contribute to the substantiation of the controversial scientific concept stating that hemichannels consisting of connexin32 and connexin43 as well as pannexin1 channels act as pathological pores. This hypothesis will be verified in the specific context of cell death and inflammation, both which are key features of acute liver failure and liver fibrosis. As such, the project is organised in 3 workpackages. In the first workpackage, connexin32, connexin43 and pannexin1 expression and activity will be studied in human and animal diseased liver tissue. The second workpackage is targeted towards the in vitro characterisation of recently generated inhibitors of hemichannels consisting of connexin32 and connexin43 as well as pannexin1 channels, namely Gap24, Gap19 and 10Panx1, respectively. Particular attention will be paid to their target selectivity and potential to reduce cell death and inflammation in liver-based in vitro models. The goal of the third workpackage is to test the in vivo extrapolation of the established in vitro findings. To this end, Gap24, Gap19 and 10Panx1 will be administered to animal models of acute liver failure or liver fibrosis, followed by evaluation of their outcome on cell death, inflammation and clinically relevant read-outs. The CONNECT project is anticipated to significantly impact the connexin and pannexin research area, as it foresees the development and optimisation of new tools and technology to study connexin hemichannels and pannexin channels. The clinical utility of this high risk/high gain project is dual, as it aspires the establishment of novel drug targets and tissue biomarkers for, respectively, the treatment and diagnosis of liver disease. However, given the generic nature of the driving concept, the outcome of the CONNECT project is equally of clinical relevance for a plethora of other pathologies.

Informazioni correlate

<table>
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<th>Field</th>
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<tr>
<td>Sintesi delle relazioni</td>
<td>Final Report Summary - CONNECT (Connexin and pannexin channels as drug</td>
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<td>targets and biomarkers in acute and chronic liver disease)</td>
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**Ricercatore principale**

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**Istituzione ospitante**

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*Contributo UE:* EUR 1 473 928,80  

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**To know more**

http://erc.europa.eu/

**Argomenti**

Biotechnology - Life Sciences

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