Development of new gene therapy approaches for the treatment of ocular neovascularization

Fact Sheet

Project Information

EYESEE

Grant agreement ID: 249314

Status
Closed project

Start date
1 November 2009

End date
31 October 2013

Funded under
FP7-PEOPLE

Overall budget
€ 100 000

EU contribution
€ 100 000

Coordinated by
UNIVERSIDADE DO ALGARVE
Portugal

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Objective

Ocular neovascularization (NV) is the pathological feature common to Retinopathy of
Ocular neovascularization (NV) is the pathological feature common to Retinopathy of Prematurity, Diabetic Retinopathy, and Age-related Macular Degeneration. Collectively, these diseases are the leading cause of blindness in developed countries, and even more relevant due to the increased life expectancy. Current therapies can delay the progression of the disease, but do not restore the vision already lost. Therefore, there is a need for new, more efficient anti-angiogenic therapies. Gene therapy has been successfully used in several ocular disease paradigms. Most gene therapy strategies have used viral vectors due to their gene transfer efficiency. Nevertheless, viral vectors have several limitations, the most important ones the risk of random integration into the genome and potential severe immune response. Non-viral vectors have the potential to overcome the drawbacks associated with viral vectors but, to date, non-viral vectors still lag behind viral ones in gene transfer efficiency. This proposal aims to address both the need for new therapeutic strategies to treat ocular NV and development of new non-viral vectors optimized for ocular gene therapy. This dual approach would be feasible due to the multidisciplinary background of the Coordinator of this proposal in gene therapy, biology and and materials science. This project will study the potential of combining the inhibition of angiogenic factors and the expression of anti-angiogenic factors, delivered by the developed non-viral vectors. The outcome of this project would be two-fold: 1) non-viral vectors with an efficiency comparable to viral ones and 2) new therapeutic strategies to prevent loss of vision caused by the progression of ocular NV. This can significantly contribute to European excellence by decreasing the knowledge gap and generate added value products that can simultaneously have an economic impact but mostly have a social impact, specially in those ailing from diseases causing blindness

Field of science

/medical and health sciences/clinical medicine/ophthalmology/retinopathy
/medical and health sciences/medical biotechnology/genetic engineering/gene therapy
/natural sciences/biological sciences/genetics and heredity/genome

Programme(s)

Topic(s)

Call for proposal

FP7-PEOPLE-2009-RG

Funding Scheme
MC-IRG - International Re-integration Grants (IRG)

Coordinator

**UNIVERSIDADE DO ALGARVE**

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**Activity type**  
Higher or Secondary Education Establishments

**EU contribution**  
€ 100 000

**Website**  
Contact the organisation

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**Last update:** 16 July 2019  
**Record number:** 93357

**Permalink:** https://cordis.europa.eu/project/id/249314/

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