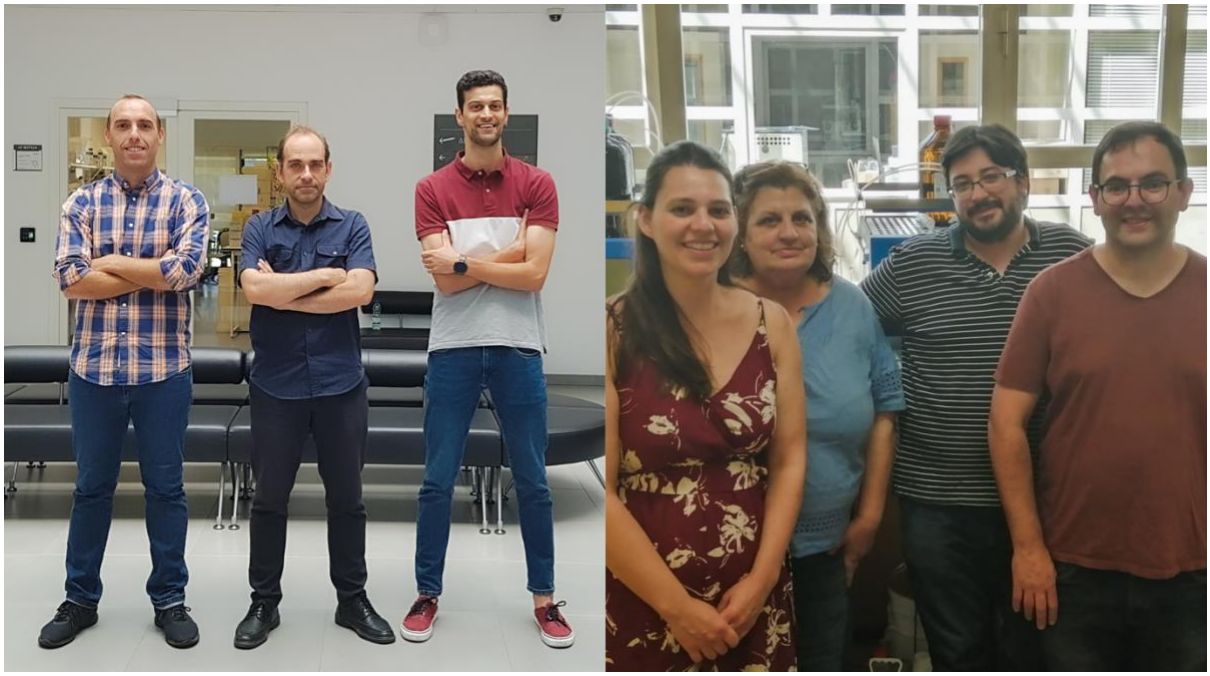
CENTER FOR NEUROSCIENCE
AND CELL BIOLOGY
UNIVERSITY OF COIMBRA
PORTUGAL

# Study by the Universities of Coimbra and Porto confirms the effectiveness of an antioxidant to prevent non-alcoholic fatty liver



ANtiOxCIN4 is the name of the antioxidant patented by the University of Coimbra (UC) and the University of Porto (UP), which has shown effectiveness in preventing non-alcoholic fatty liver (FiGNA). The result of this investigation opens the door to proof-of-concept studies of AntiOxCIN4. It also contributes to its potential use in therapy against non-alcoholic fatty liver, a disease that affects about a quarter of the world's population and is often related to obesity and diabetes. Despite the high incidence, there is still no approved drug for the treatment of this condition.

Non-alcoholic fatty liver is an excessive accumulation of fat in the liver, not caused by excessive alcohol consumption (greater than 10 g/day in women and 20 g/day in men), nor from the prolonged use of hepatotoxic drugs or of the occurrence of other types of diseases, such as hepatitis C. It is, in fact, often related to poor eating habits and a

Universidade de Coimbra
Rua Larga, Faculdade de Medicina,
Pólo I, 1º andar
3004-504 Coimbra, Portugal
T+351 239 820 190
F+351 239 822 776

Pólo III – Pólo das Ciências da Saúde
Universidade de Coimbra
Azinhaga de Santa Comba, Celas,
3004-504 Coimbra, Portugal
T+351 239 480 200

UC – Biotech,
Parque Tecnológico de Cantanhede
Núcleo 04, Lote 8
3060-197 Cantanhede, Portugal
T+351 231 249 170

info@cnc.uc.pt
www.cnc.uc.pt

sedentary lifestyle. This condition, often silent, can, over time, have serious consequences for liver function and, consequently, for health. After an initial benign phase, this condition can progress to more severe states, such as liver inflammation, cirrhosis or even liver cancer.

The study, which launches new clues for the prevention of this disease, was published in the prestigious journal Redox Biology and results from the collaboration between two teams of researchers: one led by Paulo Oliveira, principal investigator of the Center for Neurosciences and Cell Biology of the University of Coimbra (CNC -UC), responsible for evaluating the biological effectiveness of the new compound, and another led by Fernanda Borges, Associate Professor at the Faculty of Sciences at UP, coordinator of the Medicinal Chemistry group at the Research Center in Chemistry at UP (CIQUP), who conceived , synthesized and performed the preliminary antioxidant assays of AntiOxCIN4.

Ricardo Amorim, first author of the scientific work and researcher at CNC-UC and CIQUP, explains that the study **«is the result of several years of research with this molecule (AntiOxCIN4) and the first proof of concept regarding the use of this modified antioxidant in prevention of FiGNA in an animal model».**

To validate the molecule's effectiveness, the researchers used an animal model of mice that received AntiOxCIN4 in their daily diet for 16 weeks. Part of the animals received a standard, normal diet, while another part was fed a Western diet, rich in fat and sugar. «**We found that mice fed the Western diet, therefore obese and fatty liver animals, which were given AntiOxCIN4, had a reduction in body weight and liver weight (43% and 39%, respectively). In these animals, we found even less liver damage, with the improvement of liver blood markers and the reduction of fat accumulated in the liver»**, explains Ricardo Amorim. The research concluded that b, explains the researcher.

Researchers from the Nencki Institute of Experimental Biology of Polish Academy of Sciences and The Children's Memorial Health Institute, in Poland, also participated in this work. The study was financed by funds from the European Regional Development Fund (ERDF), through the Competitiveness Factors Operational Program (COMPETE) and the Foundation for Science and Technology (FCT).

The scientific article is available here.

Carolina Caetano & Catarina Ribeiro

## News:

| | |
|---|---|
| Atlas da Saúde Online | (see here) |
| Campeão das Províncias - Edição Digital | (in press) |
| Campeão das Províncias Online | (see here) |
| Correio da Manhã Online | (see here) |
| Diário As Beiras Online | (see here) |
| HealthNews Online | (see here) |
| Jornal de Notícias Online | (see here) |
| Medjournal Online | (see here) |
| NDC , Notícias Do Centro Online | (see here) |
| Notícias ao Minuto Online | (see here) |
| Notícias de Coimbra Online | (see here) |
| Observador Online | (see here) |
| S+ Online | (see here) |
| Sapo Online - Sapo 24 Online | (see here) |
| SIC Notícias Online | (see here) |
| Diário As Beiras | (in press) |
| Diário de Coimbra | (in press) |
| Incentivo | (in press) |
| Jornal Médico.pt Online | (see here) |
| BeiraNews Online | (see here) |
| Mais Superior Online | (see here) |

| | |
|---|---|
| SaúdeOnline | (see here) |
| News Farma Online - My Gastrenterologia Online | (see here) |
| SuperFM Online | (see here) |
| Destak | (in press) |
| Ensino Magazine Online | (see here) |
| Diário de Aveiro - Saúde & Bem-Estar | (in press) |

Universidade de Coimbra
Rua Larga, Faculdade de Medicina,
Pólo I, 1º andar
3004-504 Coimbra, Portugal
T+351 239 820 190
F+351 239 822 776

Pólo III – Pólo das Ciências da Saúde
Universidade de Coimbra
Azinhaga de Santa Comba, Celas,
3004-504 Coimbra, Portugal
T+351 239 480 200

UC – Biotech,
Parque Tecnológico de Cantanhede
Núcleo 04, Lote 8
3060-197 Cantanhede, Portugal
T+351 231 249 170

info@cnc.uc.pt
www.cnc.uc.pt