

---

PRESS RELEASE

---

**RESEARCHERS FROM CEDOC-NMS|FCM AND IGC DISCOVER A MOLECULE INVOLVED IN THE REPAIR OF LIVER WOUNDS WITH POTENTIAL TO BE USED AS A BIOMARKER**

A new study from researchers of CEDOC-NOVA Medical School | Faculdade de Ciências Médicas and Instituto Gulbenkian de Ciência, led by Maria Paula Macedo and Carlos Penha-Gonçalves, respectively, published in *Hepatology Communications*, showed that a molecule CD26/DPP-4 is involved in the regeneration of acute liver wounds and is a promising biomarker for hepatic disease.

It is known that DPP-4 regulates insulin secretion upon food intake. The regulation of the levels of “sugar in the blood” in type-2 diabetics is performed by therapeutic inhibition of enzymatic activity of the molecule CD26/DPP-4. This approach has earned clinical relevance. Moreover, apart from its role in the control of the amount of sugar present in blood, the molecule DPP4 appears to be related with inflammatory reactions in various pathological processes.

In this study, the researchers explored the role of CD26/DPP-4 during injury of the hepatic tissue leading to evident reduction of the main liver immune cell population (Kupffer cells). It was shown that the blood levels of CD26/DPP-4 enzymatic activity are augmented when this population of liver immune cells is diminished, both in acute and chronic mouse models of liver injury. Inversely, the levels of blood enzymatic activity decreased during recovery of these cells. The authors observed that specific deletion of such immune liver cell population in absence of liver tissue damage also lead to significant increase in CD26/DPP4 blood enzymatic activity. Thus, these results show the close relation between functional changes in Kupffer cells associated with hepatic diseases and the molecule CD26/DPP-4.

The relation between the liver immune cells and the enzymatic activity of CD26/DPP-4 in the blood, exhibited in this study, suggests that the level/amount of the enzymatic activity of the molecule CD26/DPP-4 in the blood might be used as a biomarker. Moreover, it can become a valuable biochemical parameter for the evaluation of hepatic lesion or disorder since so far can this evaluation can only be performed using invasive techniques.

This study was supported by the institutions mentioned above, FCT (Fundação para a Ciência e Tecnologia), SPD (Sociedade Portuguesa de Diabetes) and the European Commission.

Lisbon, September de 2018

**CONTACTS:**

- Principal Investigator: Sílvia Conde, [silvia.conde@nms.unl.pt](mailto:silvia.conde@nms.unl.pt), +351 918 974 400
- Advisory, Institutional Communication and Marketing Office (Gabinete de Assessoria, Comunicação Institucional e Marketing) NMS: [comunica@nms.unl.pt](mailto:comunica@nms.unl.pt), 218 803 086/925 946 068; Science Communication Office NMS: [sci.com@nms.unl.pt](mailto:sci.com@nms.unl.pt), 218 803 112/925 153 213

#### ADDITIONAL INFORMATION

**1. Original article:** “Dipeptidyl Peptidase-4 (CD26/DPP-4) is a Pro-recovery Mediator During Acute Hepatotoxic Damage and Mirrors Severe Shifts in Kupffer Cells.” DOI:10.1002/hep4.1225.

#### 2. Work developed in:

- CEDOC - Chronic Diseases Research Centre (Centro de Estudos de Doenças Crónicas), NOVA Medical School | Faculdade de Ciências Médicas, Universidade NOVA de Lisboa, Lisboa
- Instituto Gulbenkian de Ciência, Oeiras

#### 3. Figures in attachment

Figure 1: Representative scheme of the study

Figure 2: Principal investigator of the study – Paula Macedo and Carlos Penha-Gonçalves

#### 4. CEDOC and NMS

CEDOC - CHRONIC DISEASES RESEARCH CENTER - is an established institute which aims at excellence in medical research on chronic diseases. The general objectives of CEDOC are to form an internationally-recognized Centre of excellence in Biomedical, Translational and Clinical Research on chronic diseases; to stimulate collaborative research between groups within the CEDOC; to strengthen research quality and innovation and to promote multidisciplinary projects within and beyond the Centre; to provide an exciting research environment for the training of Postdoctoral Fellows, PhD and Master funding at national and international levels; and to simulate the organization of outreach activities at local and national levels. CEDOC is part of the R&D Unit iNOVA4Health - Programme in Translational Medicine, a major partnership involving iBET, IPOLFG and ITQB-UNL, classified as Excellent.. iNOVA4Health's mission is the pursuit of excellence in basic, developmental, preclinical & clinical research, through international cooperation. iNOVA4Health offers the necessary conditions for the successful accomplishment of the Project. For more information please visit:

<http://cedoc.unl.pt/>.

**NOVA Medical School (NMS)** is an academic unit of Universidade NOVA de Lisboa since 1977. It currently has 1.671 students in the Integrated Master Degree in Medicine, 569 postgraduate students. It has a total of 546 professors and researchers. NMS|FCM is the Medical School with the best tutor/student ratio (1/3) in clinical years in Portugal. It is associated with several health units, allowing a variety of teaching environments and a more comprehensive knowledge of hospital reality and primary health care. Furthermore, the students of NMS have had excellent results in the medical specialty assessment. Besides CEDOC, the School has other research Centre: ToxOmics (Centre for Toxicogenomics and Human Health). In 2015, NMS|FCM was awarded the Ministry of Health Gold Medal for Distinguished Services. In the same year, NMS and Centro Hospitalar de Lisboa Central (CHLC) signed the consortium that created the University Medical Centre of Lisbon (Centro Médico Universitário de Lisboa - CMUL). This consortium grants the students of NMS|FCM a better and more integrated clinical training, stimulates the development of clinical research and offers better conditions for lifelong learning to the health professionals. More info at [www.nms.unl.pt](http://www.nms.unl.pt).