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## **New drugs to relieve cancer pain**

### **Pioneering research at the Universities of Leicester and**

### **Ferrara tests new drugs that could relieve cancer pain**

Researchers at the University of Leicester and the University of Ferrara in Italy have collaborated to develop new drugs which have the potential to relieve cancer pain without causing many of the side effects of current pain-treatments like morphine.

Figures show that 90% of cancer patients experience pain in the final year of their lives and this is a big problem. Currently, the use of drugs like morphine produces side effects such as depressed breathing, drowsiness, constipation and tolerance. Unfortunately tolerance usually results in an increased dose of morphine, which in turn means that patients experience more of these side effects.

Professors David Lambert and David Rowbotham at the University of Leicester, as well as Doctors Guerrini, Calo and Professor Salvadori from the University of Ferrara in Italy, are leading the early experiments of a new group of drugs which may not produce these side effects. The research done at the University of Leicester has been funded by the Leicestershire and Rutland charity Hope Against Cancer. Professor David Lambert commented:

"This work is still at a very early stage but has the potential to change the way we think about making drugs for pain related issues."

The new group of drugs, which were developed in the University of Ferrara and tested by the University of Leicester, is designed to produce pain relief by acting at two targets simultaneously. The two target idea may provide effective pain relief with less tolerance.

Hope Against Cancer has funded this 3-year PhD project at the University of Leicester to look at the long term effects of these new drugs, with a primary focus on drug tolerance.

Nikolaos Dietis, the PhD research student who is currently working on the project, said:

"Tolerance to strong painkillers like morphine involves complicated biological processes, aspects of which still remain questionable. Our research may provide some answers by designing new drugs that have multiple roles. We are now studying these drugs to see what they do in the long-term."

Dr Guerrini said:

"Pain is a very complicated condition, whose control and relief could be achieved with the use of drugs that act on two different targets in order to obtain pain relief more effectively."

The project at the University of Leicester could lead to further development of these new drugs that could even lead to future trials on cancer patients.

Professor Rowbotham commented:

"We need to further refine this work to enable studies to be performed in patients. This may be a relatively long-term process, but it offers a completely new approach to pain management for cancer patients in the future."

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This research is being presented to the public at the University of Leicester on June 24. The Festival of Postgraduate Research introduces employers and the public to the next generation of innovators and cutting-edge researchers, and gives postgraduate researchers the opportunity to explain the real world implications of their research to a wide ranging audience.

<http://www2.le.ac.uk/offices/ssds/sd/pgr/events/fpgr>

Notes to Editors

For further information about the research, contact Professor David Lambert, Department of Cardiovascular Sciences (Pharmacology and Therapeutics Group), at the University of Leicester on 0116 252 5694 or via email [dgl3@le.ac.uk](mailto:dgl3@le.ac.uk).

#### **About Hope Against Cancer:**

Hope Against Cancer, formally known as the Hope Foundation, was established in 2003 to increase the funds available for cancer research in Leicestershire and Rutland to help improve the area's status as a leading centre for cancer research.

Surveys demonstrate that when patients with cancer are treated at cancer centres and units carrying out research, outcomes are significantly improved.

Cancer research has historically been poorly funded in Leicestershire and Rutland and all money raised by the Hope will be used exclusively to fund vital cancer research in this area. Hope currently funds 12 research fellowships looking at a range of cancers and is grateful for the support of the Universities of Leicester, Loughborough and De Montfort.

