

University of Birmingham launches trial to fight cancer caused by a common virus

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The trial of a vaccine which can treat some forms of cancer caused by a common herpes virus known as the Epstein Barr Virus (EBV) has been launched by Cancer Research UK's Drug Development Office (DDO) at the University of Birmingham.

The trial is being presented today (Tuesday) by **Dr Graham Taylor** (<http://www.birmingham.ac.uk/staff/profiles/cancer/taylor-graham.aspx>), from the University of Birmingham, at a conference in Oxford to mark 50 years since Cancer Research UK first discovered the link between the EBV virus and cancer*.

The Epstein-Barr virus (EBV) infects most people in the UK, although it rarely causes medical problems. But it is also found in around 1200 people a year in the UK who have cancer, including Hodgkin's lymphomas and nasopharyngeal carcinoma – located at the back of the nose.

Inside these cancers, EBV encourages cells to make molecules called EBNA1 and LMP2. The vaccine** trains the immune system to recognise these molecules and kill the cancer cells.

The vaccine has been developed by Cancer Research UK with technology developed by the University of Birmingham. The trial will test the effect of the vaccine on the immune system in 18 patients with nasopharyngeal carcinoma, recruited at hospitals across the UK, including a number of Experimental Cancer Medicine Centres, with additional patients taking part in a related trial in Hong Kong***.

Dr Neil Steven, Cancer Research UK's lead clinician in Birmingham, said: "We're delighted to open this important trial of a new cancer vaccine.

"The immune system struggles to distinguish between cancer cells and healthy cells. We have good reason to think that this vaccine will train the immune system to recognise that the cancer cells are different, and that it can arm immune cells to destroy tumours. If trials are successful, this vaccine could one day provide an effective new way to treat cancer patients and save lives."

Cancer Research UK funded the research at Birmingham University which led to the discovery and development of the vaccine and is managing and funding the clinical trial.

The launch of today's trial builds on the success of initial trials which took place simultaneously in the UK and Hong Kong****. Cancer Research UK's DDO owns and is supplying the vaccine for all trials.

Dr Nigel Blackburn, director of drug development at Cancer Research UK's DDO, said: "Our scientists played a key role in discovering and developing this promising new cancer vaccine and now we're excited to take this drug into further clinical trials.

"Our earlier study has already proved that this vaccine is safe to give to patients and this latest trial will tell us more about how the vaccine can fight cancer."

ENDS

Notes to Editors:

For more information or to interview scientists involved contact **Kara Bradley** (<mailto:k.j.bradley@bham.ac.uk>) at the University press office on +44 (0)121 414 5134.

* Dr Graham Taylor, a Cancer Research UK scientist also based at the University of Birmingham, will be presenting the trial at the **EBV 50th Anniversary Conference** (</facilities/mds-cpd/conferences/ebv-2014/index.aspx>), 23 - 25 March 2014, Keble College Oxford.

** Called MVA-EBNA/LMP2 vaccine.

***A Phase Ib trial of MVA-EBNA1/LMP2 vaccine in nasopharyngeal carcinoma. The trial is led from Queen Elizabeth, Birmingham and is also taking place at The Royal Marsden Hospital, London, The Christie, Manchester, the Velindre Cancer Centre, Cardiff, The Beatson West of Scotland Cancer Centre, Glasgow, the Aintree University Hospital and The Royal Liverpool Hospital, Liverpool and University College Hospital (UCH) London.

The Cancer Research UK website has **more information about the trial** (<http://www.cancerresearchuk.org/cancer-help/trials/a-trial-of-vaccine-for-nasopharyngeal-cancer-that-contains-epstein-barr-virus>).

A Phase II trial is running simultaneously in Hong Kong. Nasopharyngeal carcinoma is more common in Chinese people. Patients being treated in this trial are in remission and there are no other treatment options available.

**** A paper detailing the results from the Hong Kong Phase Ia trial has been **published in Cancer Research** (<http://cancerres.aacrjournals.org/content/73/6/1676.full>).

The initial Phase Ia trial in the UK was open to all patients with cancer caused by EBV infection including Non-Hodgkins Lymphoma as well as nasopharyngeal carcinoma. The Phase I trial in Hong Kong, that was run simultaneously, was only open to nasopharyngeal carcinoma patients.

About Cancer Research UK's Drug Development Office

Cancer Research UK has an impressive record of developing novel treatments for cancer. It currently has a portfolio of over 30 new anti-cancer agents in preclinical development, phase I or early phase II clinical trials.

Since 1982, the Cancer Research UK **Drug Development Office** (<http://www.cancerresearchuk.org/science/research/drug-development/scientists/>) has completed taken over 130 trials of 120 different potential new anti-cancer agents or combinations of agents into clinical trials in patients. Six compounds have made it to market: Temozolomide, a drug discovered by Cancer Research UK scientists, that is an effective new treatment for brain cancer and more recently Abiraterone for prostate cancer as well as Alimta, Etopophos and Formestane, and Dexrazoxane. A total of 31 agents tested in DDO clinical trials have been developed further by organisations external to Cancer Research UK. Eight are still in active clinical development and may yet become new treatments for cancer.

About the ECMC network

Conducting the majority of early-phase cancer clinical trials in the UK, **experimental cancer medicine centres (ECMCs)** (<http://www.ecmcnetwork.org.uk>) provide infrastructure funding to enhance the quantity and quality of research in developing new medicines to help beat cancer. Each ECMC brings together lab-based experts in cancer biology with cancer doctors to speed up the flow of ideas from the lab bench to the patient's bedside. Launched in 2007, the network of 18 ECMCs is jointly supported by Cancer Research UK, the National Institute for Health Research in England, and the Departments of Health of Scotland, Wales and Northern Ireland who, together, have provided £35m from 2007-2012 and a further £35m from 2012 to 2017.

- Cancer Research UK is the world's leading cancer charity dedicated to saving lives through research
- The charity's pioneering work into the prevention, diagnosis and treatment of cancer has helped save millions of lives.
- Cancer Research UK receives no government funding for its life-saving research. Every step it makes towards beating cancer relies on every pound donated.
- Cancer Research UK has been at the heart of the progress that has already seen survival rates in the UK double in the last forty years.
- Cancer Research UK supports research into all aspects of cancer through the work of over 4,000 scientists, doctors and nurses.
- Together with its partners and supporters, Cancer Research UK's vision is to bring forward the day when all cancers are cured.

For further information about Cancer Research UK's work or to find out how to support the charity, please call 0300 123 1861 or [visit their website \(http://www.cancerresearchuk.org\)](http://www.cancerresearchuk.org).

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