New gene linked to ovarian cancer


Cancer Research UK scientists have found a gene in mice that could protect against ovarian cancer and, if faulty, may increase the chance of developing the disease, according to research published in Nature. The team from Cancer Research UK’s London Research Institute found that mice without either of the two copies of the HELQ gene were twice as likely to develop ovarian tumours, as well as becoming less fertile. And even losing just a single copy of the HELQ gene was enough to cause a mouse to develop more tumours. If HELQ plays a similar role in humans, this may open up the possibility that, in the future, women could be screened for errors in the HELQ gene that might increase their risk of ovarian cancer.

> Read in full here

PARP inhibitors could be used to treat NSCLC


Using a high-throughput screen, scientists at The Institute of Cancer Research, London, have shown that PARP1/2 inhibitors as a monotherapy could represent a novel therapeutic strategy for NSCLC patients with ERCC1-deficient tumours.

> Read in full here

“This study suggests that PARP inhibitors – treatments already in clinical trials to treat breast and ovarian cancer – could also be a promising treatment for patients with certain forms of lung cancer. We now need to build on this promising early research by testing PARP inhibitors against lung cancer in clinical trials to confirm whether they can benefit patients.”

Dr Chris Lord, study author
The ICR, London
OTHER NEWS

DR SIMON BOULTON WINS THE PAUL MARKS PRIZE FOR CANCER RESEARCH

Dr Simon Boulton, head of the DNA Damage Response lab at Cancer Research UK’s London Research Institute Clare Hall Laboratory, has won the prestigious Paul Marks Prize for Cancer Research.

CRUK has funded Dr Boulton throughout his scientific career, except for his post-doctoral work in the US. The prize recognises a new generation of leaders in cancer research, who are making significant contributions to the understanding of cancer or are improving the treatment of the disease through basic or clinical research.

It is intended to encourage young investigators who have a unique opportunity to help shape the future of cancer research. Awarded by the Memorial Sloan Kettering Cancer Center in New York every two years, this year Dr Boulton is sharing the prize with Levi Garraway and DJ Pan.

OTHER NEWS

VISMODEGIB APPROVED FOR ADVANCED NON-MELANOMA SKIN CANCER

The European Medicines Agency (EMA) has authorised vismodegib (trade name Erivedge) to be used to treat advanced basal cell carcinoma (BCC). Vismodegib has been shown to shrink advanced tumours in 47% of patients with locally advanced BCC that cannot be treated with surgery or radiotherapy. It was also found to shrink tumours in 33% of people with BCC that had spread to other parts of the body.

Research by Professor Phil Ingham, funded by Cancer Research UK, uncovered crucial detail about the hedgehog signalling pathway, which led to the development of vismodegib.

Dr Simon Boulton in his lab at the CRUK London Research Institute

DR SIMON BOULTON

MEET THE SCIENTIST

Qualifications and History

1998 PhD, University of Cambridge, UK
1998 HFSP and EMBO Postdoctoral Fellow, Harvard Medical School, USA
2002 Established lab at the Cancer Research UK London Research Institute Clare Hall Laboratory

When did you first become interested in DNA damage?

“When I was a student at the University of Edinburgh, I discovered molecular biology. It was all quite new – this was the mid-nineties – and there were exciting papers coming out every week about genetic engineering and things like that. I became really fixated on it, and decided to go on to do a PhD.”

What were your aims when setting up your own lab at Clare Hall?

“I’ve always been open to approaching a problem from a new perspective, and not being afraid to try something new. When I set up the lab, I wanted to go across different model organisms to answer questions about DNA repair, using worms, yeast and mammalian cells. We also use mouse models for the things you simply can’t do with worms, such as the impact of DNA damage on tumorigenesis – the process that leads to cancer.”

What impact has working at Clare Hall had on your career?

“Cancer Research UK has brought together some of the top people in the world here at Clare Hall. We can do science that’s very difficult to do anywhere else, underpinned by core funding from the charity. Even in the US, researchers are struggling. I think Cancer Research UK has done a remarkable job of continuing to fundraise and fund research, despite the economic crisis. And it’s the charity’s supporters that have been essential for this.

“The thing that keeps me motivated is the people I work with. I’m privileged to have a lab full of 14 smart people – scary smart – and they’re fantastic. It doesn’t feel like work – it feels more like a hobby and I love it, although one problem is that I don’t switch off. Now I have kids they demand my full attention when I go home, but I’ll still wake up in the middle of the night with an idea for an experiment.”

What does the future hold for you?

“What motivates me and keeps me going with science is that you think you know something, and then you start digging and realise you don’t know anything. Things change very rapidly, which is what makes it so fun. Being in a great environment like the London Research Institute, or the Francis Crick Institute – where we’re moving to in 2015 – is really important.

“I’m excited by the potential for closer interactions with other Cancer Research UK scientists who will be moving there, as well as the people coming from other organisations. You can learn so much talking to developmental biologists, neurobiologists, immunologists and so on – people working in other fields that help to shed light on your own work.”

Dr Boulton was interviewed by Kat Arney. The full article can be found on the CRUK Science Blog.

www.cancertechnology.com
RECENT EVENTS

NETWORKING AT THE TOP LUNCHEON

At last month’s AACR-NCI-EORTC Molecular Targets and Cancer Therapeutics Conference, CRT hosted a successful networking event at the Prudential Center, Boston.

The conference bought together an estimated 3,000 academics, scientists, and pharmaceutical industry representatives from across the globe to discuss innovations in drug development, target selection, and the impact of new discoveries in molecular biology. It therefore provided an ideal opportunity for staff from CRT and Cancer Research UK to meet and socialise with oncology colleagues.

From the 52nd floor venue, guests were able to enjoy good food while taking in the spectacular autumnal views of Boston. The intimate and informal structure of the event helped to stimulate engaging conversation and lively discussion between colleagues and peers.

“With attendees from a wide range of companies and a relaxed agenda designed to maximise networking time, the event provided an opportunity to interact and socialise with new and existing partners, discuss recent initiatives and developments, and enjoy good food and conversation. We’d like to thank all of those who attended and look forward to hosting similar events in the future.” Larry Steranka, managing director of CRT Inc.

CRT UPDATE

CRT ESTABLISHES TWO MAJOR INDUSTRY ALLIANCES

Since the last edition of Insight, CRT has established two major industry alliances, bringing together the best minds from industry and academia to work around themed areas of cancer biology.

In July 2013, CRT and FORMA Therapeutics announced a bold research initiative to discover innovative tools, technologies and therapeutic drug candidates against a variety of protein homeostasis regulators called deubiquitinating enzymes (DUBs). Under this agreement, FORMA will pair its drug discovery capabilities with CRT’s expertise in translating academic discoveries through its Discovery Laboratories (CRT-DL) and the exclusive world-class academic network of Cancer Research UK Principal Investigators, to explore the protease enzymes that regulate ubiquitin-dependent pathways implicated in cancer.

This was followed, in September 2013, by a multi-project alliance agreement with Teva Pharmaceutical Industries Ltd. to research and develop first-in-class cancer drugs that modulate DNA damage and repair response (DDR) processes in cancer cells. Cancer Research UK and CRT have created a world-class hub of expertise in DDR-related basic, translational, and clinical research that is leading the field; building the understanding that will hopefully enable ‘smarter’ use of this very interesting approach in the development of new treatment options. This hub will provide the foundations for CRT’s and Teva’s work towards developing novel therapies based on DDR-related targets for the treatment of cancer.

Such partnerships are proving to be a hugely successful formula for collaborative drug development. > Read more here

www.cancertechnology.com