EARLY STAGE DRUG SHOWS PROMISE AGAINST CANCER CELLS FROM YOUNG PATIENTS

A NEW drug has shown promising pre-clinical activity against cells from several types of children's cancers, scientists reveal at the National Cancer Research Institute Conference in Birmingham today (Tuesday).

Scientists from Cancer Research UK's Paterson Institute at the University of Manchester have shown in laboratory tests that the drug RH1 can kill tumour cells from neuroblastoma, osteosarcoma and Ewing's sarcoma, three types of childhood and adolescent cancer that are often resistant to current types of chemotherapy.

Despite increases in survival rates for childhood cancers, new drugs are needed to combat drug resistance seen in current treatments. On the strength of these pre-clinical results, the researchers are planning a phase 1 trial for the drug involving children with cancer.

All cells have natural suicide mechanisms that become active when cells are damaged or grow uncontrollably. In cancer cells, this suicide mechanism switches off or becomes faulty and treatment is needed to encourage the process.

The researchers – based at the Paterson Institute for Cancer Research Manchester and the Royal Manchester Children's Hospital – found in their pre-clinical study that even very low doses of RH1 could increase cancer cell death by around 50 per cent when compared with untreated cells.

RH1's activity is greatly enhanced by an enzyme, DT-diaphorase (DTD), which is found in higher quantities in many adult tumours, including lung, liver and breast cancers, and the drug has recently completed phase 1 studies in adults.

Dr Guy Makin, the study's lead researcher from the Paterson Institute said: "We are very excited that we have been able to work with a new drug that has only just completed an adult phase 1 study. RH1 is a very potent agent and our pre-clinical results suggest that it could be effective against childhood tumours that express DTD. We hope that this will be just the first of many new agents that we can show are useful for treating childhood cancer."

The planned trial would be the first for a drug tested for children through Cancer Research UK's drug development office.

Dr Bruce Morland, chairman of the Children's Cancer and Leukaemia Group (CCLG), who were instrumental in the selection of RH1 for evaluation, said: "Survival rates for children with cancer are already high at 75 per cent. But in many cases, patients become resistant to their drugs and need new options.

"This is an exciting moment in the history of the CCLG. Our increasingly close relationship with the Cancer Research UK drug development office means new potentially promising anticancer drugs can be tested in children at a much earlier point in their development. In this way we hope that new, effective drugs are introduced in the fight against children's cancer at the earliest opportunity, saving even more lives in the process."

RH1 was synthesised from MeDZQ, an anti-tumour chemical that selectively kills cancer cells. The RH1 compound was manufactured by scientists to be a water-soluble version of MeDZQ, making it more effective as a drug for potential clinical use.

Dr Sally Burtles, Cancer Research UK's director of drug development, said: "Helping more children survive cancer by finding new treatments is a top priority for the charity. Currently, not many drugs are developed specifically for children so it's great news that the drug is showing such encouraging effects in preclinical studies. We hope this type of drug development will continue and help improve the treatment of childhood cancer patients."

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For media enquiries please contact Emma Gilgunn-Jones on 07918 695 599 or the London press office on 020 7061 8311 or, out-of-hours, the duty press officer on 07050 264 059.

Notes to Editor

A limited number of childhood cancer case studies are available – please contact the press office for more information.

Children's cancer – facts and figures

- The term 'childhood cancer', that is, cancer diagnosed before the age of 15, refers to a wide range of illnesses that are generally unlike adult cancers.
- Around 1,500 new cases of childhood cancer are diagnosed each year in the UK, about 20 per cent more in boys than in girls.
- The rate of children getting cancer has remained more or less constant for the last 40 years. Cancer is now the most common cause of death from illness in children aged between one and 15 due to the success of treating infectious diseases.
- In the 1960s, only one in four children with cancer survived. Now, around three in four are cured thanks to the efforts of doctors and scientists worldwide.

For more information visit info.cancerresearchuk.org/cancerandresearch/ourcurrentresearch/downloads/briefsheets/

The Children's Cancer and Leukaemia Group (CCLG)

- The Children's Cancer and Leukaemia Group coordinate the care of virtually all children with cancer in the UK.
- Cancer Research UK is the major supporter of this group and funds the UK clinical trials work of the CCLG via its coordinating centre in Leicester and 22 paediatric centres throughout the British Isles. The CCLG is currently coordinating more than 30 national and international trials.
- The CCLG is one of the world's leading childhood cancer clinical trial groups. Over the past five years, there has been significant progress and success in the CCLG's clinical trials, resulting in improvements in survival.
- For further information visit www.ukccsg.org

About Cancer Research UK

Together with its partners and supporters, Cancer Research UK's vision is to beat cancer.

- Cancer Research UK carries out world-class research to improve understanding of the disease and find out how to prevent, diagnose and treat different kinds of cancer.
- Cancer Research UK ensures that its findings are used to improve the lives of all cancer patients.
- Cancer Research UK helps people to understand cancer, the progress that is being made and the choices each person can make.
- Cancer Research UK works in partnership with others to achieve the greatest impact in the global fight against cancer.

For further information visit www.cancerresearchuk.org

The Paterson Institute for Cancer Research (PICR)

- The PICR is a research institute within The University of Manchester, and is one of four research institutes core-funded by Cancer Research UK.
- It is a partner in the newly-formed Manchester Cancer Research Centre (MCRC), whose goal is to become one of the world's leading cancer research centres.
- MCRC brings together the cancer research activity in the city of The University of Manchester, Christie Hospital

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NHS Trust and Cancer Research UK.

- Research at the PICR spans the whole spectrum of cancer research, from programmes investigating the molecular and cellular basis of cancer to those focused on translational research and the development of novel therapeutic approaches.
- Facilities include micro-arrays, advanced imaging, bioinformatics and state-of-the-art mass-spectrometry based proteomics.
- The institute has over 200 postdoctoral scientists, clinical fellows, scientific officers, administrative and technical staff, postgraduate research students and visiting fellows.
- For more information please visit www.paterson.man.ac.uk and www.manchester.ac.uk/mcrc

About the NCRI Cancer Conference

The National Cancer Research Institute (NCRI) Cancer Conference is the UK's premier forum for disseminating advances across all aspects of cancer research.

AstraZeneca is the gold sponsor for the NCRI Cancer Conference 2007.

About the NCRI

The National Cancer Research Institute (NCRI) was established in April 2001. It is a partnership between government, the voluntary sector and the private sector, with the primary mission of maximising patient benefit that accrues from cancer research in the UK through coordination of effort and joint planning towards an integrated national strategy for cancer research. www.ncri.org.uk

The NCRI consists of: The Association of British Pharmaceutical Industry (ABPI); The Association for International Cancer Research; The Biotechnology and Biological Sciences Research Council; Breakthrough Breast Cancer; Breast Cancer Campaign; Cancer Research UK; Department of Health; Economic and Social Research Council; Leukaemia Research Fund; Ludwig Institute for Cancer Research; Macmillan Cancer Support; Marie Curie Cancer Care; The Medical Research Council; Northern Ireland Health and Personal Social Services Research & Development Office; Roy Castle Lung Cancer Foundation; Scottish Executive Health Department; Tenovus; Wales Office of Research and Development for Health & Social Care; Wellcome Trust; and Yorkshire Cancer Research.

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