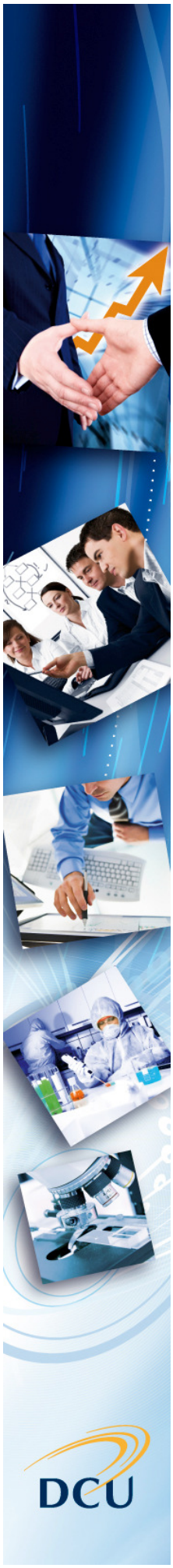

invent DCU
INNOVATION & ENTERPRISE

Dublin City University Licensing Opportunity

LIFE SCIENCES

BIOMARKER BASED TEST FOR PREDICTING THERAPY RESPONSE IN MULTIPLE MYELOMA PATIENTS

INTRODUCTION

A team from the **Mater Misericordiae** Hospital, Dublin and **Dublin City University** have developed a biomarker based test for predicting response to therapy in individuals with Multiple Myeloma. Dr. Peter O'Gorman, Consultant Haematologist, Mater Hospital and Researchers at the National Institute for Cellular Biotechnology, Dublin City University have discovered a panel of novel biomarkers which can predict a patient's response to thalidomide therapy with an accuracy of approximately **84%.**

BACKGROUND

Multiple Myeloma (MM) is a disease characterised by a proliferation of malignant plasma cells and a subsequent overabundance of monoclonal para-protein. Although MM remains an incurable blood cancer the development of novel therapies has dramatically increased response rates and survival in the last number of years. Despite major advances in the understanding of MM a standard remission-induction therapeutic approach is taken in patients in similar categories of age and performance status. Thalidomide (and its emerging analogues) is an oral drug that has been shown to be highly active against MM. However, serious side effects observed with the use of thalidomide can include thrombo-embolic disease and irreversible peripheral neuropathy

TECHNOLOGY DESCRIPTION

Our technology provides a ***method of predicting an individual with MM's response to thalidomide or thalidomide analogues***. We have discovered a panel of biomarkers that are differentially expressed in cancer patients that respond to thalidomide relative to those who do not respond to thalidomide therapy. We have devised a proteomic profile using an accessible platform that will assist clinicians in individualizing treatment by identifying patients that will have a high likelihood of response to thalidomide therapy. Once validated, this profile could allow the physician to choose an alternative therapy in patients predicted to be resistant to thalidomide based treatment and therefore avoiding ineffective potentially costly treatment and exposure of patients to unnecessary side effects. In addition to the biomarker panel the group have accumulated a unique indigenous Myeloma biobank which can be mined for additional biomarker candidates.

MARKET OPPORTUNITY

Multiple myeloma affects roughly 200,000 + individuals worldwide and is the second most common blood cancer after non-Hodgkin's lymphoma In the US an estimated 60,000 people are believed to suffer from MM with 21,000 new diagnoses and 11,000 deaths expected in 2011. Decision Resources, one of the world's leading research and advisory firms for pharmaceutical and healthcare issues, finds that the multiple myeloma drug market will experience significant growth, increasing from $4.4 billion in 2011 to $7.2 billion in 2021 (a

5.2 percent annual growth) in the United States, France, Germany, Italy, Spain, the United Kingdom and Japan.*

RESEARCH AND IP STATUS

Research on Multiple myeloma is on-going at the Mater Hospital and DCU. A patent application (WO 2011/020839) for the test was filed in 2009 and has entered the national Phase in both Europe and the US.

TYPE OF BUSINESS SOUGHT

Available for licensing. We are also interested to talk to companies interested in strategic partnerships in the diagnostics/companion diagnostics area.

CONTACTS

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Relevant Publications:

Rajpal R, Dowling p, Meiller J et al. Novel panel of protein biomarkers for predicting response to thalidomide-based therapy in newly diagnosed multiple myeloma patients. Proteomics 11(8), 1391-1402 (2011)

Xiong Q, Feng G. Identification and evaluation of a panel of serum biomarkers for predicting response to thalidomide in multiple myeloma patients. Expert Rev. Proteomics 8(4), (2011)

***** http://www.marketwatch.com/story/the-multiple-myeloma-drug-market-will-experience-significant-growth-increasing-from-44-billion-in-2011-to-72-billion-in-2021-2012-10-02