QMB Innovation Centre

QUEEN MARY BIOENTERPRISES

H1 2016

Discovery

NEWS, VIEWS AND EVENTS AT QMB

IN THIS ISSUE

EDITOR'S WELCOME

Welcome to the latest issue of the QMB Newsletter.

So that's it, we're out. At the time of writing, Article 50 of the Lisbon Treaty hadn't yet been invoked, but everyone in the scientific community is under no illusion that we are going to have to adjust to a new political reality: we are out of Europe.

How this will pan out for the Life Sciences sector is anyone's guess but most people would agree that we are embarking on a journey with an uncertain destination. In the meantime, we look at the initial reaction to the Brexit vote and what it means for UK plc.

In other news, we hear from two of our tenants who are conducting their first human trials, a major milestone for any life science company. ADC Therapeutics (ADCT) is conducting human trials across a number of platforms, including Acute Myeloid Leukaemia and in B-cell non-Hodgkin Lymphoma.

MediWise is also conducting trials in the UK and the Netherlands for new MRI scanning technology and for GlucoWise, a first of its kind glucose monitor which safely detects the concentration of glucose in the blood stream without having to draw a blood sample.

We also catch up with Kym Denny, the Chief Executive of hVIVO, on their collaboration with SEEK Group which aims to advance two programmes, a universal flu and Zika vaccine.

We hear the latest news from QMB's sister organisation, Queen Mary Innovation Ltd (QMI), which has helped to launch Regenerate Life Science, a regenerative medicine company focusing on the development of new technologies to enable significant advances in cardiovascular medicine through stem cell therapy.

Moreover, London Specialist Pharmacy and Biorelevant tell us what's happening in personalised medicine and "gut" science.

Elsewhere, now that Sadiq Khan has been elected as the new Mayor of London, we hear from Najmah Anshory from the Science Council on what the London scientific community wants from the new Mayor.

We're eager to hear your perspective too, so please share your feedback in the comments section on our website, or join the conversation on our Twitter page. For more updates and the latest news from QMB, please visit our website.

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#QMBInnovation

Brexit Reaction

The UK's vote to leave the European Union has left many scrambling to determine the impact on markets and various sectors, including the Life Sciences sector which relies so heavily on the EU for funding and collaboration.

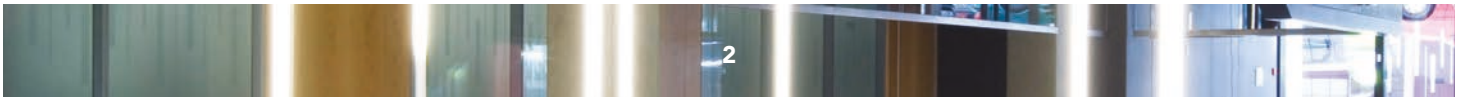
Nearly 52% of British voters chose to leave the EU, while 48% voted to remain. The decision sent the financial markets into a tailspin and led Prime Minister David Cameron to announce that he will resign from his position in October. Brexit supporters have argued that the UK should leave the EU to free itself from regulations on its economy and immigration policies, while opponents have maintained that staying in the EU would be better for Britain's economy.

At a grassroots level, the UK's decision to leave has rattled the scientific community amid fears the "Brexit" referendum result will threaten funding for British research and collaboration across the continent. The pharmaceutical and biotech industries could also feel a knock-on effect because, while companies don't receive significant research funding from the EU, many have close collaborations with university research groups in the U.K.

The British scientific community was overwhelmingly opposed to Brexit. A Nature poll of nearly 2,000 scientists living in the UK conducted in March found that 83% supported remaining in the EU, while just 12% supported leaving the union. Stephen Hawking and around 150 other members of the Royal Society at Cambridge University said that a vote for Brexit would be a "disaster for UK science and universities."

Much of the concern centres on funding. The EU has budgeted an estimated €120 billion ($134 billion) to directly support research and innovation projects from 2014 to 2020, and Britain has been a major beneficiary from EU structural funds invested in UK research and innovation projects.

From 2007 to 2013, the UK contributed an estimated €5.4 billion to EU research and development, according to the UK Office of National Statistics. During that time period, it received €8.8 billion in direct EU funding for research,



development, and innovation, the Royal Society said in a report published this year.

True, the "Brexit" vote won't immediately affect the funding of research projects that are already under way, but it could create uncertainty among European scientists planning new grant applications in collaboration with their U.K. counterparts.

Uncertainty surrounding Britain's future eligibility for those funds could see scientists decide to work with counterparts in other member states, rather than those in the UK.

The UK life sciences sector employs more than 222,000 people and has a turnover of £60 billion. It spends £4 billion on R&D, and also attracts high levels of inward investment. Over half of the UK's £21 billion annual pharmaceutical exports go to the EU.

The UK is also a major player in international scientific research, accounting for nearly 16% of the world's most highly cited articles. Some science associations say that much of its success has to do with its European ties.

"Our evidence showed that the UK's EU membership was regarded as having a mostly positive influence on the effectiveness of UK science, research and innovation, especially with respect to funding and collaboration, said Dominic Tildesley, President of the Royal Society of Chemistry, in a statement released shortly after the result came out.

Brexit supporters, including the group Scientists for Britain, have argued that UK researchers will still be able to access EU research funds through association agreements, which allow researchers from non-EU countries to compete for European grants in exchange for a lump sum. For example, non-EU countries like Norway and Israel currently use association agreements to access EU funds.

But funding isn't the only concern. Any restrictions on the free movement of people could negatively impact the UK science, said Venkatraman 'Venki' Ramakrishnan, President of the Royal Society.

"One of the great strengths of U.K. research has always been its international nature, and we need to continue to welcome researchers and students from abroad," said Ramakrishnan.

It's probably going to take a while, even years, for the dust to settle. Immediate contingency plans will be needed to protect research and innovation. Only time will tell, but there's no doubt that a lack of visibility on what our new relationship, if any, will look like, will hang over the scientific community for the foreseeable future.

MediWise to hold first human trials for two devices

Themos Kallos

Nadine Geddes

MediWise, the pioneers in cutting edge wireless devices in medical diagnostics and monitoring, is about to hold its first human trials on two of its devices: RadiWise, the company's MRI image enhancing device, and GlucoWise, its non-invasive glucose sensor.

The RadiWise test is scheduled to take place in July at the Leiden University Medical Centre in Leiden, the Netherlands. The test will be overseen by Themos Kallos, MediWise's Chief Science Officer, and Professor Andrew Webb from Leiden University.

The test, which will be on an as yet unspecified number of recipients, will look at the effectiveness of MediWise's 'MetaSurface', or "smart" material technology.

The MetaSurface is a proprietary non-ferrous metallodielectric grid compact mat-like structure, positioned underneath a patient's body as they lie flat on the MRI table. The research team is investigating the effectiveness on humans to drastically increase MRI efficiency by improving its signal-to-noise ratio (SNR). The MetaSurface is a passive device with no electrical or mechanical parts and can be easily repositioned or moved from one machine to another.

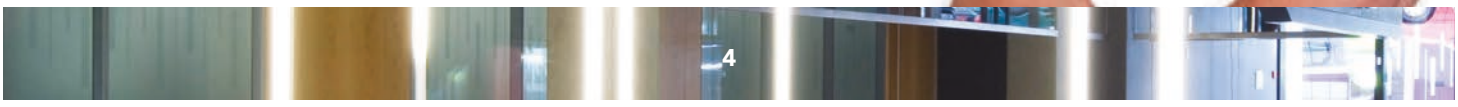
If successful, the material's potential could have significant benefits for healthcare providers. The MetaSurface can be used with any commercial MRI scanner for any field-strength and has the potential to increase the patient throughput by 50%, which could translate into millions of pounds worth of cost savings per year for the NHS.

Meanwhile, the GlucoWise test is due to take place in August at the University of Roehampton in south west London, overseen by Dr Kallos and Nadine Geddes from MediWise, and Dr Richard McKenzie from the University of Roehampton.

GlucoWise is a first of its kind glucose monitor which safely detects the concentration of glucose in the blood stream without having to draw a blood sample. The trials will compare the accuracy of Mediwise's non-invasive glucose measurement method against the traditional finger prick monitors, as well as the highest accuracy lab based method available.

The company held its first animal trials last year which proved there is a clear correlation between the glucose measurement in the GlucoWise prototype and the lab analyser. More crucially, the test also proved the GlucoWise monitor can detect similar glucose levels without drawing any blood.

"The tests will demonstrate non-invasive glucose sensing in humans during a glucose tolerance test and we look forward to reporting on our progress in due course," Themos told QMB.



hVIVO says initial results look favourable in Influenza Prophylaxis study


Kym Denny

hVIVO says that an initial review of results from the PrEP-001 Phase IIa flu study suggests a favourable study outcome, only eight months after the study received ethics approval.

PrEP-001 is a nasally administered, broad-spectrum agent that leverages the innate immune system to prevent upper respiratory tract viral infections (colds and flus) and is the lead programme of PrEP Biopharm Limited, a new UK biotech company for respiratory infectious disease products, in which hVIVO acquired a significant equity stake on 1 November 2015.

The study titled, *"A Phase II, Repeated Dose, Double-Blinded, Randomised, Controlled Study to Examine the Prophylactic Efficacy, Safety and Tolerability of PrEP-001 in Healthy Subjects Subsequently Challenged with Influenza A/Perth/16/2009 (H3N2) Virus"* contained 63 subjects and is the first of three Phase IIa studies to be conducted by hVIVO for PrEP Biopharm.

The study's primary focus was on assessing the changes in symptoms in healthy subjects who received PrEP-001 compared to those who received placebo. The study was held in hVIVO's purpose-built quarantine unit located at QMB using hVIVO's flu disease model. Two additional Phase IIa studies, an asthma study and a dose ranging durability study, are currently ongoing.

hVIVO's Kym Denny said: *"We are delighted to report such encouraging initial results for the first of our PrEP-001 Phase IIa studies. I look forward to updating our investors further once these results are finalised."*

Ryan Muldoon, PrEP Biopharm CEO, added: *"We are encouraged by the initial results. Upper respiratory viral infections present an enormous unmet medical need and we are committed to bringing new options to patients who suffer continuing morbidity and mortality from these infections."*

hVIVO and SEEK invest £14M to create universal flu vaccine joint venture

hVIVO, the pioneers in human challenge models of disease, and SEEK, the drug discovery group, have teamed up to create Imutex, a startup with a Phase IIa-ready universal flu vaccine.

The founding companies have invested £14 million and committed technology and resources to get Imutex off the ground. Imutex will use the resources to progress on two fronts. The most advanced of the two programmes is FLU-v, a universal influenza vaccine candidate designed to activate B and T cells by targeting proteins that are common to all flu viruses. They also have plans to advance a Zika virus shot into the clinic.

The development of universal flu and Zika vaccines are key international public health priorities and Imutex will collaborate with the National Institute of Allergy and Infectious Diseases (NIAID) to accelerate development of both vaccines this year.

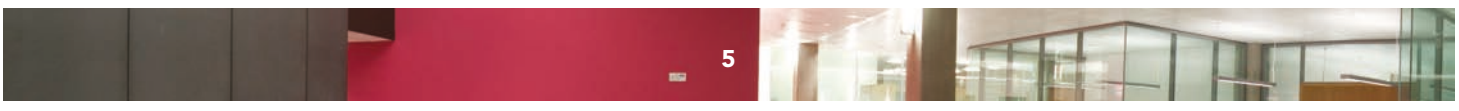
hVIVO CEO Kym Denny said: *"We have a lot of experience in flu and conducting flu clinical trials, … [and] this led us to know that SEEK's product is a really good candidate."*

Kym added: *"Addressing flu's unmet medical need is a key strategic driver for hVIVO and this collaboration allows us to advance that objective whilst simultaneously broadening our reach into the adjacent therapeutic area of mosquito-borne diseases."*

The concept of targeting conserved elements of the flu virus is being pursued by other universal vaccine R&D programmes, including Israel's BiondVax Pharmaceuticals, but has yet to result in a commercial product. One difficulty is that the common proteins tend to lie below the surface of the virus, making it harder to access them.

SEEK thinks its approach, which it has licensed to Imutex, can get around this issue. And, having run a Phase Ib trial of the candidate back in 2010, hVIVO sees potential too.

"What we saw is a solid scientific hypothesis in regards to leveraging a T cell response that could have a multivirus approach," said Kym.



MedCity: The State of Life Science in London

It's official: London needs to add at least 250,000 square feet of life science innovation space over the next decade if it wants to continue accommodating start-ups and attracting investment from overseas, according to a report by MedCity published earlier this year.

The report, prepared by the Creative Places consultancy for MedCity, and funded by the Greater London Authority examines the trends impacting demand for innovation space, including commercial laboratory space in London.

The report is based on interviews with just under 100 companies and extensive international research. Among the key findings are that in the coming 3-5 years, London will need to add a minimum of 250,000 sq. ft. of incubation space to help meet the burgeoning demand.

But how true is that 250,000 sq. ft. figure? And is the report a true reflection of the real and tangible assets that we have here in Whitechapel?

There is no denying that demand far outstrips supply in London, where space is an expensive commodity, fought over by a mix of commercial and residential developments. But demand for commercial start-up lab space in the whole of London is actually closer to averaging 15,000-20,000 sq. ft. per year, with possibly exceptional annual demand peaking at 25,000 sq. ft. every few years. This is a tenth of the report's forecasts.

What would have been useful would have been a drilling down into the demand for innovation lab space to reach the subset of commercial start-up incubation lab space. The latter is much closer to the market place, and thus proximity to getting a product to market, creating wealth and future targeted earnings, which is why QMB is in the business in the first place.

The data has a distinct lumpiness about it, in that unused office space or hospital ward space has been re-categorised as innovation space. A telephone line and a power socket do not necessarily constitute "innovation space".

The report also doesn't distinguish between chemistry and biology space. This distinction is important because

they have very different requirements, which ultimately dictate not only the size of the space required but the most effective design.

Chemistry start-ups need ducted fume hoods, while biology start-ups may well not. Chemistry labs mean bigger risers, strong roofs (> 5 kN/M2) plus UPS coverage for at least 10 minutes (for safe egress past the hoods). However, a chemist also needs more space than a biologist, e.g. 210 sq. ft. cf. ~140 sq. ft. per scientist.

Simply retrofitting old buildings to provide incubator space for chemists is not enough. Chemists need new builds, with large ceiling voids and delivery courtyards. It would have been useful if the distinction between

chemistry and biology was segmented into separate columns to cover both categories. Central government needs to see these numbers to illustrate the market failure bottleneck in London.

The report identifies seven locations that could add more than 2 million square foot of capacity to London by 2020, but, as it stands, the £1 billion Imperial College development at White City – due to open in the late summer - is the only project that is definitely moving forward.

But at 20,000 sq. ft. of fitted out commercial incubation space, White City is insufficient to meet the forecast demands for different types of space on its own, and the report advocates, amongst others suggestions, support for developing land in Kings Cross near the British Library.

This is the main thrust of the report compiled by Creative Places. The development site is located between the Francis Crick Institute and the British Library where the site owners, the British Library, believes there is capacity to deliver significant floor space.

The report says some will be for the library itself and the Turing Institute, adding that whether any of the property developed on this site for healthcare related commercial R&D activity will very much depend on how any selected development partner sees commercial advantage in working with key stakeholders in the sector.

Between 2002 and 2009, the LDA put in excess of £13 million into three incubators which have generated many hundreds of millions of pounds of IP driven capitalisation and many hundreds of 'sticky'- non-footloose - white-collar science jobs and blue collar support jobs.

Sticky jobs mean sticky taxes. From an initial investment of £7 million from the London Development Authority and £18 million from Queen Mary University, QMB has generated or safeguarded over 400 jobs and facilitated the creation of over £400 million of IP driven capitalisation in only four years. This is much more cost-efficient than the Regional Growth Fund.

The report only mentions in passing the enormous impact that the creation of a Life Sciences Campus in Whitechapel will have, not just on the local area, but for London Life Science in general. The 2 hectare site will have ample redevelopment space, providing opportunities for research, education and residential space and the potential creation of thousands of jobs in and around Whitechapel, not to mention the connectivity Crossrail, and potentially Crossrail 2, will bring.

Still, the upshot of the report appears to be: Imperial / White City as Plan A, the British Library as Plan B, while Plan C includes Whitechapel. But given that Whitechapel has such a diverse array of tangible assets on the ground, it surely deserves to be an equal second with the British Library in the queue for GLA and BIS support.

London Specialist Pharmacy – Leading the way in compounded bio-identical hormones

QMB caught up with Rajshri Owen, the Head of Pharmacy at London Specialist Pharmacy.

Rajshri Owen, Head of Pharmacy, London Specialist Pharmacy

The Specialist Pharmacy is the UK's first and only compounding pharmacy specifically for hormones, registered and regulated by the UK General Pharmaceutical Council (GPhC). The Specialist Pharmacy has resided in the QMB Innovation Centre since 2013 and subsequently, has grown significantly to deliver personalised, compounded bio-identical hormone therapy (BHRT) medication to thousands of patients all over the world.

Over the years, the company has supported its patients by providing an alternative solution where standardised, off-the-shelf, 'one size fits all' HRT medication has not been effective. Each compounded BHRT preparation is composed of precise hormone dosages matching the prescription request.

BHRT preparations are commonly prescribed to treat common hormonal related conditions such as menopause, andropause (male menopause), premenstrual syndrome and many others.

"We also provide specialist support to prescribers and patients in other areas including dermatology, trichology, pain management and cosmeceuticals," said Rajshri Owen, Head of Pharmacy.

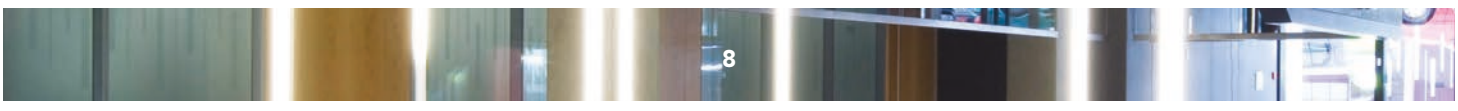
High Quality Products

Specialist Pharmacy believes in using ingredients that are only sourced from reputable suppliers. In fact, its hormones are derived from diosgenin, sourced from Mexican yams, then converted and synthesised into human hormones that are 100% identical in their chemical structure to those produced by the human body. As they are identical in their chemical composition to those that naturally occur in our bodies, human's respond to them in the same way.

All ingredients used in Specialist Pharmacy compounded products are non-toxic, non-irritant, paraben free and approved by both the Food and Drug Administration (FDA) in the US and the Medicines and Healthcare Products Regulatory Agency (MHRA) in the UK.

Specialist Pharmacy has research interests in areas such as the absorption of hormones by the human body. This is a complex area with absorption varying by time of day and pathway into the blood stream.

LONDON SPECIALIST PHARMACY



Delivering quality service through Quality Assurance and Quality Control

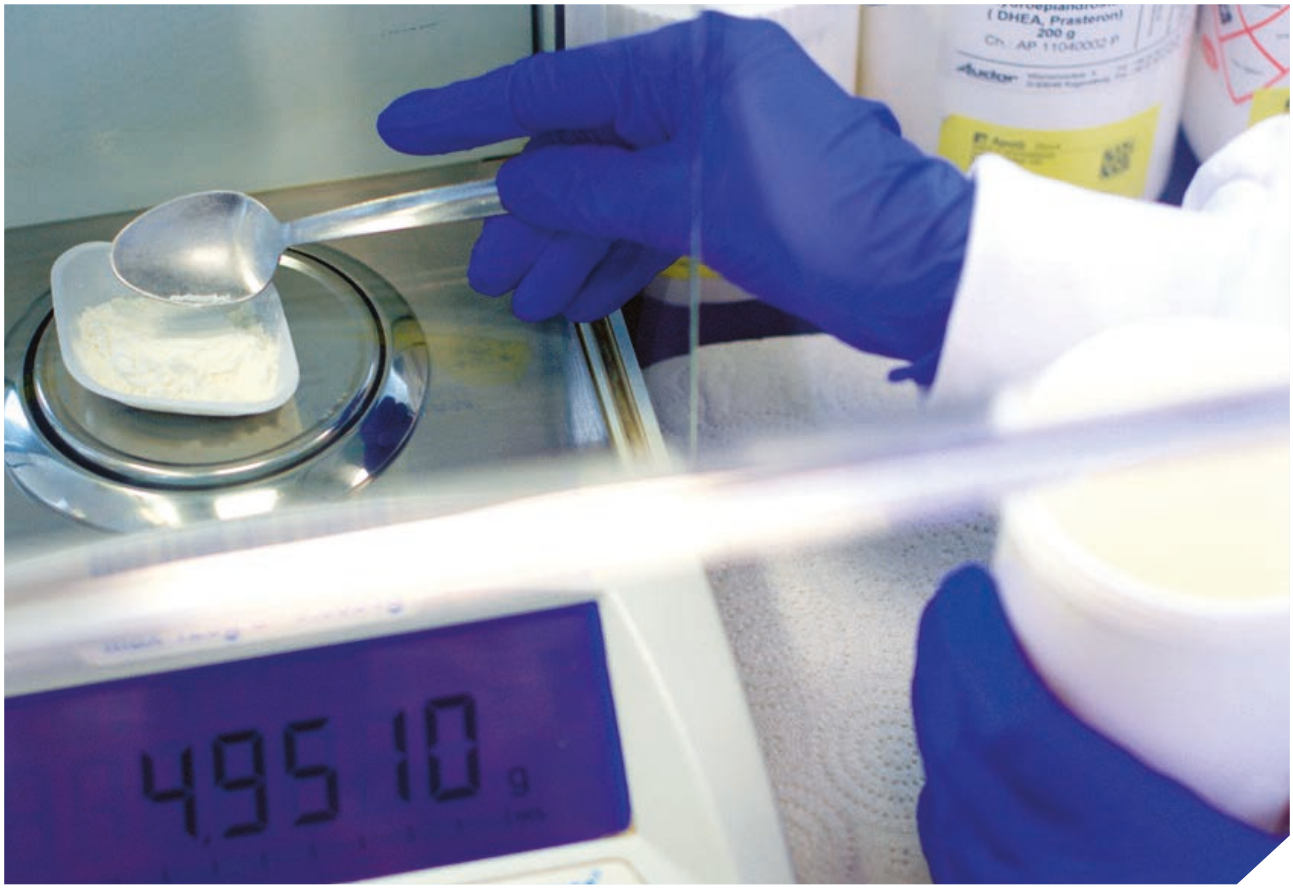
As a compounding pharmacy, Specialist Pharmacy employs rigorous quality control and assurance processes to ensure product integrity never wavers. Quality is integral to its core operation. The team uses compounding-specific software that works on the principle of using barcoding technology for all ingredient verification.

The Specialist Pharmacy team

The Specialist Pharmacy ensures that its pharmacy team is trained to the highest standards.

"We are immensely proud that our entire team fully meets the training qualifications and standards set out by the GPhC. There are 13 of us, led by Rajshri Owen (Head of Pharmacy) who is closely supported by pharmacists Miriam Martinez and Begona Casas. Look out for us around QMB," Elizabeth Philp, CEO.

Elizabeth Philp, CEO, London Specialist Pharmacy



WHAT DOES **SCIENCE** WANT FROM THE NEW **MAYOR OF LONDON?**

QMB caught up with Najmah Anshory from the Science Council to outline what London's scientific community wants from Sadiq Khan, the new Mayor of London.

Now that the dust has settled and London has voted in a new Mayor in Sadiq Khan, the hope for a better and improved London begins. There is no doubt that being mayor of one of the most influential cities in the world will see his to-do list seem like a never ending stream, and I'm sure we all have our own wish list of things we'd like him to address. The Science Council asked its members and friends what they would like Mr Khan to do for science and scientists in London.

Physiological Society

The Physiological Society calls on Sadiq Khan to:

- Ensure that the Mayor and London Authority respect scientific evidence in planning for London's future in issues affecting everyone such as pollution, transport and housing,
- Support London's knowledge-based economy and the world-leading universities, scientific facilities and infrastructure in the capital,
- Provide housing for the students and workers who make science flourish here. London must continue to be a world hub attracting the best and brightest.

Universities UK

- London is home to over 40 universities which play an important role in the success of the city. Universities are a magnet for global talent and contribute to the economic success and cultural vibrancy of the capital.
- Universities UK calls on Sadiq Khan to recognise and celebrate the contribution of London's world-class universities by ensuring that London remains an attractive destination for talent from across Europe and the world, and retains access to vital international funding and networks.

London Higher

Universities in London collectively generate £17 billion each year and support 163,500 jobs. London Higher asks that Sadiq Khan actively champion this regional, national and global asset by:

- Working to increase the amount of affordable accommodation and housing for our students and the world class staff we employ
- Supporting our activities to make London the global hub for higher education by countering unhelpful visa restrictions
- Invest with us in the world class research infrastructure needed to compete in today's global economy

INTERVIEW

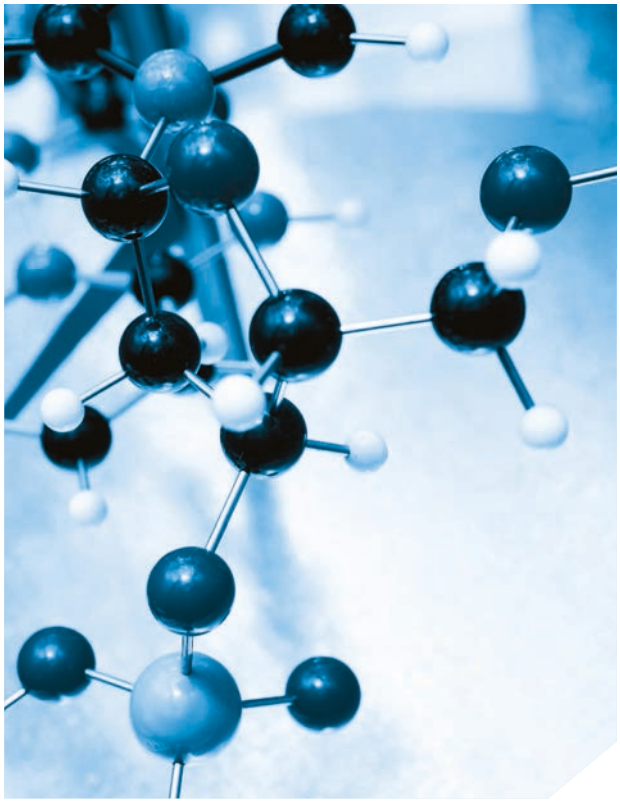
The Science Council is a membership organisation for professional bodies and learned societies across science, bringing together a range of disciplines and sectors to reflect the multi-disciplinary practice of science in today's society.

The Science Council provides a voice on policy and ethical issues affecting the science community, fostering debate and the exchange of ideas across the network. The Science Council supports member organisations to be more effective in meeting the needs of the science community and attracting the next generation into fulfilling science careers. The Science Council sets the standards for practising scientists, through professional registration. We believe that every scientist has a responsibility to society, and themselves, to work with integrity, keep their skills and knowledge up to date and consider how their efforts affect the world around them.

The Science Council works with companies and organisations who commit to promoting and embedding professional standards among their staff, providing an environment in which registrants can meet this responsibility.

For more information on the Science Council, please click on the link below:

http://sciencecouncil.org/



ADC THERAPEUTICS DOSES FIRST PATIENTS IN PHASE I TRIALS ON RANGE OF ADCT TARGETS


Dr Chris Martin

ADC Therapeutics (ADCT) has successfully dosed its first patients in a number of Phase I trials across a range of cancer targets, including Acute Myeloid Leukaemia (AML), B-cell non-Hodgkin Lymphoma (B-NHL) and patients with relapsed/refractory B-cell lineage acute lymphoblastic leukaemia (B-ALL).

Leukemia is a cancer of the bone marrow and blood and is classified according to cell type and rate of growth into four main groups: acute lymphoblastic (ALL), chronic lymphocytic (CLL), acute myeloid (AML) and chronic myeloid (CML).

ADCT's antibody-drug conjugates, or ADCs, are highly targeted drug constructs which combine monoclonal antibodies specific to surface antigens on particular tumour cells with highly potent pyrrolobenzodiazepine (PBD)-based warheads.

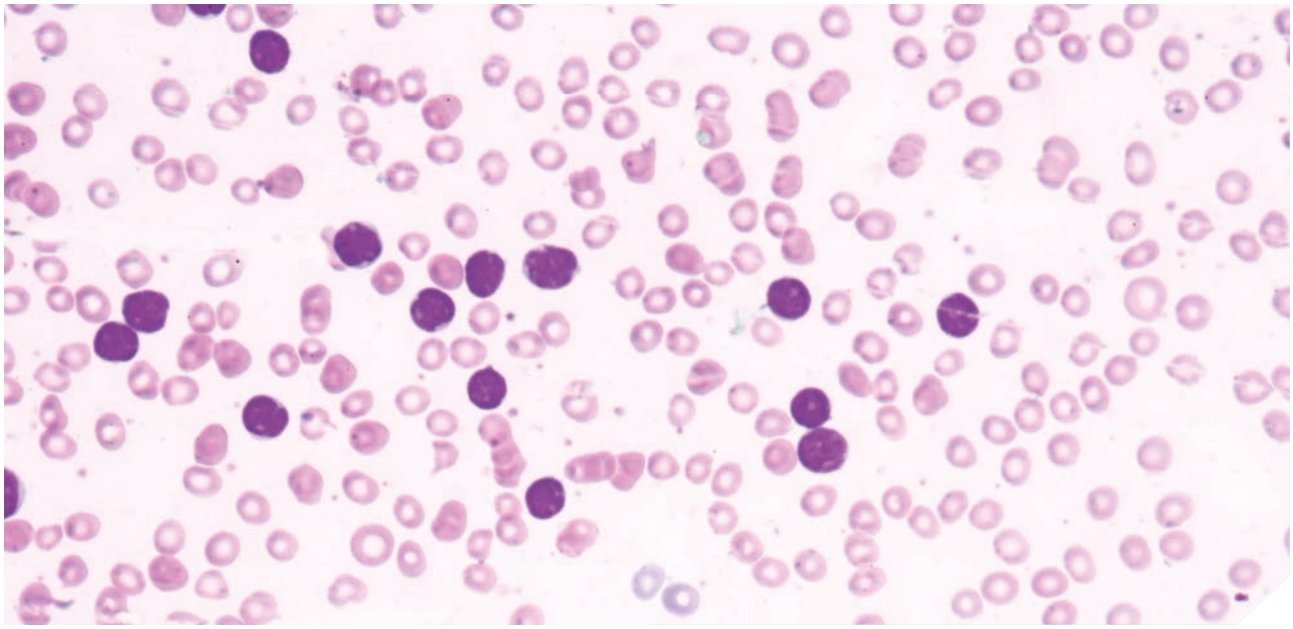
In Acute Myeloid Leukaemia, the company is evaluating its lead antibody drug conjugate ADCT-301. The two stage, Phase I open-label trial will evaluate the tolerability, safety, pharmacokinetics and activity of ADCT-301 in patients with relapsed or refractory CD-25 positive AML.

The initial dose escalation phase will recruit up to 30 patients at ten clinical sites across the US and will seek to determine the recommended dose of ADCT-301 for the second stage. The second stage, which will begin once an appropriate dose is identified, will be expanded into the UK and Europe with the recruitment of up to 30 additional patients.

Dr Chris Martin, CEO of ADC Therapeutics, said: "Dosing the first patient in this trial with ADCT-301 is an important milestone for the Company. We look forward to the progress of this trial over the coming year and to accelerating the clinical development of our ADC pipeline."

ADC Therapeutics currently has two PBD-based ADCs in four clinical trials, with four other ADCs in late preclinical development and further ADCs in research.

ADCT has also dosed its first patient in a Phase I trial to evaluate its antibody drug conjugate ADCT-402 in B-cell non-Hodgkin Lymphoma (B-NHL). B-cell non-Hodgkin



Lymphoma is a cancer of the lymphatic system, and the 10th most common cancer in the world.

ADCT-402 combines a humanised monoclonal antibody targeting the protein CD19 with a pyrrolo-benzodiazepine (PBD) warhead. CD19 is a B-cell specific surface protein expressed throughout B-cell development. It is expressed on nearly all B-cell malignancies in many non-Hodgkin lymphomas.

In preclinical in vivo models, ADCT-402 exhibited strong dose-dependent anti-tumour activity against CD19-positive leukemic and lymphoma cell lines at low single doses, and it outperformed other CD19 targeted ADCs currently in clinical development.

Dr. Jay Feingold, CMO and Senior Vice President of Clinical Development at ADC Therapeutics, said:

"Dosing the first patient in this trial with ADCT-402 is an important milestone for us and could pave the way for a better treatment regimen for patients. The trial will give us vital data on safety, tolerability, dosing and efficacy over the next two years," said Feingold.

ADC Therapeutics (ADCT) is also evaluating its ADCT-402 in patients with relapsed/refractory B-cell lineage acute lymphoblastic leukaemia (B-ALL).

Dr. Feingold said: "This is our second Phase I clinical trial with ADCT-402. Dosing the first patient in this trial in a different indication is an important milestone for us and could pave the way for a better treatment regimen for patients with B-ALL. The trial is expected to give us data on safety, tolerability and dosing."

Biorelevant launches exciting new "Gut" website

Biorelevant.com, the makers of powders which simulate the juices found in the stomach and small intestine, has launched an exciting new website, biorelevant.com, which will not only cater to its customers' needs but also help anyone who deals with the guts of animals and humans.

Biorelevant.com will make **"gut"** science accessible and understandable to people around the world, thanks to a detailed description of human and animal gut physiology

Everyone will be able to explore how the stomach and intestinal conditions can be simulated using biorelevant media, which comprise the same components as digestive juices.

*"**Biorelevant.com** will be a dynamic website which will grow its interactive and multimedia content,"* said Dr Mark Berlin, Biorelevant's Head of Business Development.

The website will contain videos and interactive tutorials with which everyone can find out how to perform experiments in order to simulate certain physiological conditions and behaviour in the gut. It will deliver all kinds of possibilities for researchers to test products they are working with.

Such experiments will be based on investigating drugs or drug products as well as any kind of product that can be swallowed, such as vitamins, supplements, functional food or even devices.

The new website will show what kind of biorelevant media can be made with the different **biorelevant.com** powders. It will also provide preparation guidelines and tutorials for convenient use of already prepared media. Additionally the website will give users the opportunity to explore case studies from academia and industry, which may be related to the work of their interest.

*"The website is aimed at making users' lives as easy and convenient as possible. Our aim is to provide a great educational platform for everyone who is interested in the digestive tract as well as offer best user guidance for utilising **biorelevant.com** products. Our customers will benefit from using **biorelevant.com** as it opens up the potential for shortening their product development time and increase their product quality,"* said Mark.

LIFE SCIENCES M&A SEES NEW HEIGHTS IN 2015

Mergermarket, publishers of BioPharm Insight, recently outlined the main transactions and trends in the Pharma, Medical & Biotech (PMB) sectors in 2016, compiled by Mergermarket's research team and editorial sector specialists.

Europe

Europe's PMB M&A landscape during Q1 2016 saw deals come to fruition that had germinated last year. Shire's proposed US$32bn acquisition of Baxalta in January came after prolonged approaches and rebuffs from Baxalta's newly spun-off entity alongside added scepticism from shareholders.

Valued at 16x projected 2016 earnings, Baxalta is an expensive acquisition for Shire, given the former's strong reliance on its haemophilia franchise. Yet, while the deal has yet to be finalised, competitive pressure from other players in the space may not be as strong as anticipated as they look to exit the haemophilia segment. Biogen has reportedly placed its haemophilia business on the block.

Similarly, UK-based acute mental health rehabilitation services provider, The Priory, which PE house Advent International had wanted to exit for some time, was finally acquired by Acadia Healthcare in January for US$2.1bn. Consolidation in hospital and clinics is gaining pace as hospitals look to gain entry into new markets of critical mass.

North America

Elsewhere, deal activity in the US slowed considerably in the first quarter following a ground-shaking 2015 that culminated in a proposed US$160bn merger between Pfizer and Allergan. The US Presidential primaries, which have healthcare firmly in the spotlight because of increases in drug prices and continued debate on the future of the Affordable Care Act (ACA) of 2010, also nudged dealmakers to the sidelines, investors and bankers said.

Investors took on a lot of paper last year and are not interested in issuing more stock this year, said one dealmaker who expects market activity to pick up again. When it will resume remains unknown, he added. New US Treasury guidelines that look to tightly rein in the capacity of US companies to complete cross-border transactions, known as tax inversions, such as the Allergan/Pfizer combination, have further clouded the M&A landscape.

US deals announced in the first quarter also featured names from 2015. Mylan which had been pursued by Teva last year, solidified its independence as a global specialty drug concern by buying Sweden's Meda for US$9.9bn in February 2016.

Diagnostics specialist Alere, which had been selling assets in the past two years, finally received a more complete bid from Abbott Laboratories on 1 February, propelling it to acquire all the remaining Alere business for US$7.5bn.

In anticipation of a shrinking orthopaedics products market, primarily due to US reimbursement programmes, Stryker agreed to pay US$2.8bn to buy Sage Products, also in February. Sage markets products to hospitals intended to reduce "never events", such as surgery on the wrong leg and patients infected in the operating room. Under the ACA, if such an event occurs, the hospital will not be reimbursed when the necessary second, corrective procedure is performed. Stryker can expand Sage's customer base through the acquisition.

Asia

Asia saw an approximate 20% slip in PMB M&A deal activity in Q1 on both a year-on-year and month-to-month basis, with US$6.9bn worth of deals taking place over 54 transactions, according to Mergermarket data. China contributed up to 80% of deal activity, with US$5.5bn in deal value and US$4.9bn in the PMB sector.

Last year, M&A activity in China's PMB sector ballooned due to a fiery equities market, so it may not have come as much of a surprise that deals slowed in the first quarter of 2016, two sector bankers said. Confidence remains that

PMB will remain the leading sector in China. Based on last year, Chinese companies across all sectors will continue chasing PMB assets, both domestically and overseas, both bankers, who expect this year will see more outbound deals, said.

"Domestic PMB assets are too pricey due to the bubble and overseas targets have a much higher quality-to-performance ratio," one of the bankers said. Both bankers implied that more outbound, high value deals are expected to be announced later this year.

The top Asia-Pacific deals in Q1 took place in China with state-owned pharmaceutical conglomerate Sinopharm Group, leading the ranks with two deals. ShanghaiShyndec Pharmaceutical acquired 12 pharmaceutical companies from parent company Sinopharm for US$1.19bn, while China National Accord Medicines, Sinopharm's listed subsidiary, acquired around US$537m of commercial assets including Sinopharm Holding Guoda Drugstore from Sinopharm, ranking this the third largest deal by value in Q1 2016. The deals are part of the reform process pushed by the Chinese government where Sinopharm was chosen as a pilot reform company in February 2015.

NanJing Xinjiekou Department Store's acquisition of Qilu Stem Cell Engineering, a Shandong-based cord blood bank, was the second largest deal in terms of value at US$610m. The deal topped Nanjing Xinjiekou's separate acquisition of China Cord Blood Corporation for around US$505m. The acquisitions marked Nanjing Xinjiekou's entry into the cord bank blood market.

QMI to sit on Board of Regenerate Life Science Limited

Queen Mary Innovation (QMI) Ltd, the wholly owned technology transfer arm of Queen Mary University of London (QMUL), is to sit on the board of a new company, Regenerate Life Science.

Regenerate Life Science is a regenerative medicine company focusing on the development of new technologies to enable significant advances in cardiovascular medicine through stem cell therapy

The company was set up following clinical studies in cardiovascular medicine conducted at Barts Health NHS Trust and Queen Mary University of London.

Regenerate Life Science was founded by Professors John Martin (founder and Chief Scientist at Magnus Life Science) and Anthony Mathur (Professor of Cardiology, William Harvey Research Institute and Barts Health NHS Trust).

QMUL and Barts have a 30% stake in the new company, and each will have a representative on the Board of Directors. QMUL will be represented on the Board by QMI.

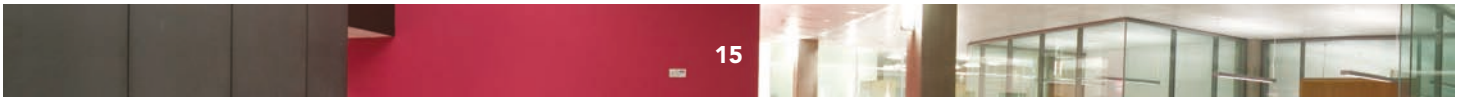
Magnus Life Science (MLS) is an innovative company focused on building and nurturing biotech companies through a unique spin-in approach. MLS will continue to work closely with both organisations who will become stakeholders in Regenerate Life Science.

Regenerate Life Science has been set up to commercially exploit the positive phase II results for a novel stem cell based therapy for the treatment of patients with either Dilated Cardiomyopathy ("DCM") or Ischemic Heart Disease ("IHD").

Cardiovascular disease is the UK's single biggest killer, accounting for more than a quarter of all deaths in the UK, and is the leading cause of mortality worldwide. Nearly 15% of all male deaths in the UK are due to IHD, with 1 in 10 women also affected. IHD accounts for 155,000 fatalities each year, or 425 people each day or one every three minutes (Source: British Heart Foundation). With an estimated economic burden of £15 billion each year for the UK and €196 billion across the EU.

Michele Hill-Perkins Head of Biopharma Queen Mary Innovation, Queen Mary University of London said: "This new regenerative therapy has the potential for huge impact in not only saving lives but also improving the quality of life for the patients with this debilitating disease."

David Campbell, CEO of Magnus Life Science, said: "Magnus set out in 2013 to help find, build and nurture innovative new life science companies coming out of the healthcare environment. There is great expectation around the use of stem cells across a number of therapeutic areas. Our data supports the use of such an approach to treat patients with heart disease and I look forward to assisting Regenerate Life Science as the company moves through the remaining regulatory hurdles to market entry."



Bloomberg hosts Queen Mary University of London technology showcase

QMI recently attended an event organised by Bloomberg, the internationally acclaimed business and financial markets news organisation, to showcase leading technology companies.

The event took place at Bloomberg's London HQ in Finsbury Square and included a clutch of QMI spin-out and Queen Mary University of London associated companies.

The roster included listed companies like Actual Experience and QMB tenant hVIVO, as well as other QMI spin-out companies like BioMin Ltd, which has developed a range of calcium phosphosilicates for use as additives in remineralising toothpastes for preventing tooth decay and treating dentine hypersensitivity.

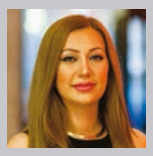
The audience comprised Bloomberg customers and clients from the investment community, including private equity, venture capital and angel networks. Twelve opportunities pitched, ranging from AIM listed companies to technologies recently funded through QMUL's Proof of Concept fund.

The pitching was followed by a lively and successful networking session.

Christopher Lowe, Global TMT Specialist at Bloomberg, said: *"The audience absolutely loved the breadth of exciting businesses and commercial technologies coming out of QMUL. This will definitely be the first of many events."*

Dr Adam Daykin, Head of Technology Transfer (Technology, Engineering and Creative) at QMI, added: *"The event at Bloomberg was a great success and really showcased QMUL as one of the fastest growing UK Tech universities."*

PLEASE CONTACT OUR MANAGEMENT TEAM WITH ANY FEEDBACK OR NEWS STORY IDEAS:



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