

H1 2018

Discovery

NEWS, VIEWS AND EVENTS AT QMB

IN THIS ISSUE



■ HVIVO CLOSES IN ON A UNIVERSAL
FLU VACCINE – **PAGE 2**



■ QMB MEETS PROFESSOR
COLIN BAILEY – **PAGE 4**



■ QMI SECURES £2M TO
EXPORT TOOTH PASTE
TECHNOLOGY – **PAGE 9**

EDITOR'S WELCOME



Welcome to the latest issue of QMB's Newsletter.

In this issue we speak to Professor Colin Bailey, the new Principal of Queen Mary University of London.

Professor Bailey was appointed in March 2017 after a successful stint at Manchester University where he was Deputy Vice-Chancellor. With the UK exiting the EU on

29 March 2019, he is tasked with steering the university through an uncertain time for higher education. We caught up with him to discuss the challenges and opportunities of Brexit and why everyone at the university needs to be more entrepreneurial.

Readers of our last newsletter will recall our conversation with Dr Rob Lambkin-Williams, Executive Scientific Advisor at hVIVO, the pioneers in human challenge models of disease, about their search for a Universal Flu Vaccine. Writing at the time, little did we know how close they were to finding a remedy to one of the world's most virulent maladies. Well, they're very close.

In other news, ADC Therapeutics (ADCT), which specialises in the development of proprietary Antibody Drug Conjugates (ADCs) targeting major cancers, has said it will only progress the development of ADCs that demonstrate the potential to be best in class in areas of high unmet medical need.

And finally, we welcome a new tenant to QMB: Roseway Labs, a private pharmacy which specialises in personal medicine in the private healthcare market, serving a growing demand for wellness and anti-ageing remedies. We spoke to Elizabeth Philp, the Chief Executive, to hear about her journey from HR professional and management consultant to personalised medicine.

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.

Nas

hVIVO closes in on a Universal Flu Vaccine

QMB tenant hVIVO is moving closer to what is considered to be the holy grail of flu vaccines, a Universal Flu Vaccine candidate that is effective across all flu strains.

The Company recently reported positive results of a Phase IIb trial of the flu vaccine candidate, FLU-v, offering a broad spectrum (A, B and Pandemic strains), true stand-alone (single injection) influenza vaccine which provides the promise of long-lasting protection.

FLU-v is now positioned to enter Phase III, with clear disease and symptom-based endpoints identified from both trials - one a field study and the other a human challenge study, the latter conducted by hVIVO.

FLU-v is being developed by Imutex Limited, hVIVO's 49% joint venture with the SEEK Group.

Gregory Stoloff, Chief Executive Officer of SEEK, said: "The disease and symptom reduction seen with this "universal" influenza vaccine candidate is achieved by stimulating an immune response mediated through T&B-cells to internal conserved influenza proteins, in contrast to seasonal influenza vaccines that prevent infection through antibody protection against external variable proteins. FLU-v is a synthetic polypeptide vaccine which means that it is not





reliant on traditional manufacturing techniques with inherent risks, in particular the potential of a mismatch of virus particularly relevant for a pandemic strain. FLU-v is designed to protect against a broad range of influenza viral strains and this includes unexpected seasonal strains or a potentially devastating pandemic strain."

By overcoming a number of key issues with current annual influenza vaccines, FLU-v has the potential to address a much larger patient population and therefore has future blockbuster sales potential.

A pioneering universal flu vaccine should be simple and cheap to manufacture and create immunity for several years. The number of people vaccinated could increase by 2-4x, implying a \$10-20 billion market opportunity, with the current global annual flu vaccine market currently estimated at around £3 billion.

In the UK alone, between 10,000 and 15,000 deaths are attributed to the flu virus each winter, with the elderly being the most at risk.

Trevor Phillips, hVIVO's Executive Chairman, said: "We are pleased that a second Phase IIb study has reported positive results for FLU-v. It is our view that FLU-v is now positioned to enter Phase III, with clear disease and symptom-based endpoints identified.

hVIVO
better treatments, faster

The market potential for a broad spectrum universal influenza vaccine is significant. Along with our joint venture partner SEEK, and with a differentiated data-package, we will endeavour to maximise the strategic options available to the Company from FLU-v while still focusing on our other revenue streams."

Shares in hVIVO, which is listed on the London Stock Exchange's AIM market, soared on the news, with markets beginning to see the potential value of this asset.



QMB INTERVIEW

QMB Meets Professor Colin Bailey

Professor Colin Bailey was appointed Principal of Queen Mary University of London in March 2017, taking up the post on September 1st, succeeding Professor Simon Gaskell, who retired in August.



QMB caught up with Professor Bailey to ask him how he has settled into the role, what his vision is for the university post-Brexit and why he thinks everyone at the university needs to be more entrepreneurial.

Q You've been in the job for nearly a year, how have you found it?

I'm loving every minute of it. It's amazing the difference we're making for the next generation, seeing the students coming through and seeing them develop. We're making a huge difference to so many people from so many cultures and backgrounds. As an international university, it's a great privilege to meet so many different people from all over the world, not just the UK.

Look at how we're helping to shape society - on health and wellbeing, on science and engineering, on energy, on creative industries, sustainability, on materials, on AI. Also, the humanities and social sciences, which for me, run through everything - the way we are helping the UK economy and helping the UK look outward globally, we are world class.

Q You're not from a completely academic background, having spent many years working in industry. Has that helped you in your job as Principal at QMUL?

I think so, yes. I think working for different organisations helps. Working in industry has helped with building partnerships between universities and industries. You build an understanding of how each other works and what each other's challenges are.

Q Based on your extensive experience in industry, can we expect to see a greater commercial emphasis at QMUL?

When you work with a company, it's not just about the research, it's about having the right skills. So for us it's about how we can encourage the next generation coming through primary, secondary and higher education. We have to make sure our graduates have the right skills for the job market, which is evolving all the time. We're currently going through the 'Fourth Industrial Revolution' and making sure our graduates have those adaptability skills is vital to their and our success. Then you come onto the research projects, commercialising that research and working with industrial partners. But working with companies involves a lot of trust which has often been built up over time. And the key is, if companies come to us as the first port of call, we can confidently demonstrate that we've got the expertise here to help them. I think it's important that universities act in the public good, so when you say a greater commercial emphasis, we need to make sure our research has an impact in shaping society as well as the economy going forward.

Q What needs to change in order for QMUL to be more commercially focused?

I want to encourage our students and staff to be more entrepreneurial. Someone once asked me what the difference is between the UK and the US. In the US, they're always thinking about how they can patent an idea, from the student body upwards. That commercial nous is embedded very early on. Here it's not, and that's something we really need to change. It's not just about counting the number of patents, because they're quite expensive to put through and expensive to defend, but then how do we spin out our ideas and how do we licence them? So I want to encourage entrepreneurship within the student body but encourage our staff to look to be able to commercialise their ideas and get the benefit from it as well.

The creative industries are the fastest growing industries in the UK and that's something that I pushed in the industrial strategy. I'm really passionate about the local agenda, particularly around skills and health and wellbeing, and raising the ambition and aspiration of the local population, but also inward investment. We are a gateway to the rest of the world, so working with industrial partners, and work on the international agenda is key to our and our students' future success.

Q What do you see as the main drivers for achieving success at QMUL?

Good people. It's about the people we've got here, both students and staff. It's about their passion and enthusiasm, about the difference we're making as an organisation and working together. Of course, there are things we can put in place like links to industry and government, but at the end of the day, the main drivers are people. So I see my job as creating the environment to allow people to flourish.

Q How does QMB fit into that vision?

QMB is a key part of our strategy for looking at and promoting commercialisation. It's about how we create the environment for our spin outs but also encourage start-ups to work closely with us. At the end of the day I'm looking for it to break even on our IP development and incubator facilities. I'm not looking for it to make masses of money, because you seldom do. But I'm looking for it to have an impact on UK Plc and also an impact on areas where it will address some of the grand challenges around inequality, particularly around the health agenda. I think one of the things we at QMB have to look at is the support we need and the impact we can have on the local agenda. I also think there are areas we are missing out on like in the cultural industries where we could do more work.

Q Will there be more emphasis on start-ups? Will we see more science start-ups and how do you see the balance between licensing and start-ups developing?

I'm very keen on spin-outs and start-ups and I can see the benefits of licensing. I don't want to say whether we should have more of one or the other because it really depends on what's coming through and what works for a particular project. The key is to make sure it is embedded in the whole university, from the staff to the student body. Making sure we have the required support in place and making sure we promote our successes which, I don't think we're very good at. I think we can be very shy about saying how good we are and what we're missing as an organisation is a bit swagger. I think we deserve a bit of

swagger. Of course we can do more and we can do better, but we should promote our successes a lot more. I think we lack confidence at times and we're not shouting as much as we should.

It's easy to raise \$5 million or even \$10 or \$20 million, but it's a lot harder, when you're spinning out companies, to make the next phase of funding above \$20 million.

I'm frustrated with government comments saying universities aren't very good at commercialising research. That's just rubbish. Come and look at the stuff we're doing at QMUL. I'm frustrated with the press who like to count the patents without really looking at the underlying quality of the patents. I think there's a lack of understanding there. But from QM, there's a lot more we can do. I look at the quality we've got here, the quality of the research. We're not doing enough on thinking about how we develop our IP, how we licence and how we spin out, and we're not doing enough working in partnership with companies. That's a lot to do with companies not understanding what we can offer. We need to promote ourselves a lot more.

Q How important is QMB in the promotion of early entrepreneurial activity inside the university's R&D departments?

It's vital. Everyone in the university needs to know about the expertise that's there and the opportunities available and that's something we need to promote internally across our staff and students.

Q Is there anything London can learn from your experiences in Manchester?

I think it's very important to accept failure. Again, comparing ourselves to the US, there doesn't seem to be a fear of failure in the US like there is in the UK. And we've got to get over that. You've got to go for it and if you fail, then fail early, know that you're failing early and come back stronger. But so what if you fail? We need more of that US-inspired culture of success.

I had a number of academic colleagues at Manchester University who were millionaires but they still taught at the university because they loved it. But we also need to not lose sight of what we want to achieve. One of the things I pushed in Manchester was the impact. We weren't in it, as a university, to make loads of money. The reason we were in it was to push and promote UK Plc, and develop ideas that could have a positive impact on society.



INTERVIEW

Q How do you see Brexit impacting QMUL and the London educational landscape?

Brexit is a concern, not least because of the uncertainty. One of the things we're pushing the UK government on is for an international strategy for the UK, so we can see the direction of travel. An important aspect of working with industry and working with partners is being able to show them how we can help them on the international stage. We also want to encourage inward investment into the east end of London.

With QMUL, we've got strong links with Malta and a presence in Paris, which we're looking to strengthen. We are talking to governments across Europe and pushing the UK government to maintain the European funding and mechanism for working closely with our European counterparts. We'll continue to try and work with European universities and institutions.

The movement of people is an issue for us and also making sure that any staff who want to come and work for us can do so, while feeling supported, and that, again, we're looking at. But we are an international university, so we will be looking to support the UK to work internationally and also encourage anyone looking to work or study at QMUL.

Q Do you see the STEM (Science, Technology, Engineering and Mathematics) intensity of QMUL increasing in the future?

STEM's important but for us, we need to talk about STEAM, which includes the arts. To me, the arts and culture runs through everything and, based on my background, I see engineering as more of an art than a science. It's the art of science. What changed my life was going to university and broadening my horizons, which was much wider than engineering and science. A large part of the economy today is the cultural industries.

Q Is the Life Science Cluster still going ahead?

We are very supportive and we are pushing for a life sciences cluster in Whitechapel. We are currently in talks with local and national government about developing life sciences within the area. The Whitechapel area has been designated as a life sciences campus by Tower Hamlets and the LDA. A life sciences campus will be developed at Whitechapel, but we need to look at the process and mechanism for developing it. We want to encourage companies into the area to work with us and Barts Trust. And when you think about the Genome Project and East London Genes and Health, which will play a key role in devising an NHS of the future particularly in how they use patient data, we have an enormous opportunity here.

Q How do you see the impact of The Crick on the London university educational ecosystem?

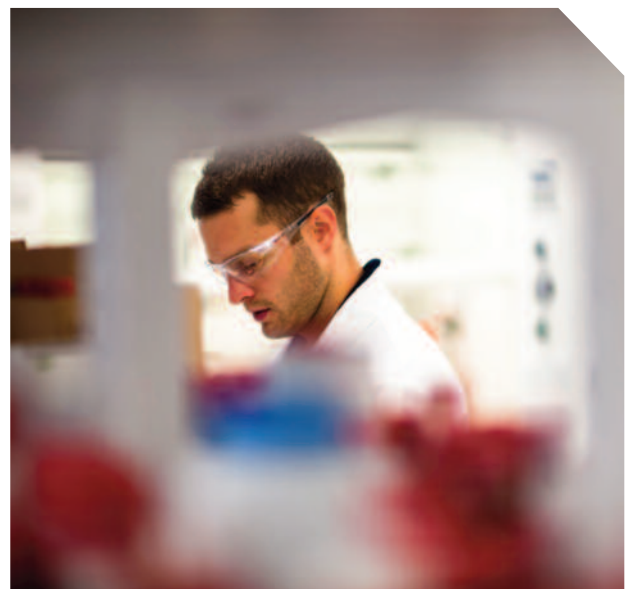
The Crick is a welcome addition to the London university educational ecosystem. We've got people seconded into The Crick, and people from The Crick working with us. What is key is the unique components at Queen Mary and how we fit into the innovation value chain. As well as doing world leading science, we are also looking to accelerate up the innovation chain, which will have an impact on patient care and we've got the expertise in partnership with Barts Trust to really make a difference.

Before studying for a degree and PhD at the University of Sheffield, Bailey began his career as an apprentice draughtsman, working for a number of design consultants supervising the construction of a variety of building structures. After completing his PhD he returned to industry to work for the Steel Construction Institute and the Building Research Establishment, where his practical and research experience resulted in significant developments in structural engineering.

He joined The University of Manchester in 2002 as Professor of Structural Engineering, becoming Head of the School of Mechanical, Aerospace and Civil Engineering at Manchester in 2007. He was then appointed Vice-President of the University and Dean of the Faculty of Science and Engineering in 2009, before becoming Deputy President and Deputy Vice-Chancellor in 2014.

Professor Bailey is author of more than 120 research papers and practical design guides, and has been awarded nine prizes for his research work. His main specialties are fire safety engineering of structures, membrane action, wind loading and steel-concrete composite systems. He has also been involved in the structural fire design of a number of iconic buildings in London including the Shard, Heron Tower and the Leadenhall Building.

He is a Fellow of the Royal Academy of Engineering, the Institution of Civil Engineers, the Institution of Structural Engineers and a member of the Institution of Fire Engineers.



UK to lead international hunt for life-changing innovations



Sam Gyimah, Science Minister

Science Minister Sam Gyimah launches UK chairmanship of international innovation network 'EUREKA', which will expand its global reach.

Science Minister Sam Gyimah recently launched the UK chairmanship of the international innovation network EUREKA, addressing the global challenge to hunt for world-changing products and services needing support to reach the market.

He attended the event celebrating the UK taking on the chairmanship

of EUREKA - a global network which has invested nearly £35 billion in projects in 40 countries worldwide- for the third time. EUREKA brings together more than 40 nations to collaborate on research and development and supports the ambitions of the government's modern Industrial Strategy.

During the one-year chairmanship, which began on July 1, the UK aims to expand the global reach of EUREKA and will invest an extra £10 million to support UK businesses and innovators bringing new products to market.

Speaking at the launch, Science Minister Sam Gyimah said: "Here in the UK, as we prepare for leaving the European Union, we face an important question: how will we as a country make our way in the world? What sort of country do we choose to be? My answer to this is clear: we will only thrive if we embrace ideas and openness, and double down on an innovative economy. Our Industrial Strategy will be key to this.

Gyimah added: "And we are backing this engagement with investment. Already, we have announced the biggest increase in public R&D investment for over 40 years, including the establishment of a £4.7 billion Industrial Strategy Challenge Fund to back business-focused research. And we are going further; as part of our industrial strategy, we have set out our ambition to increase the UK's R&D spend to 2.4% of GDP by 2027."

EUREKA is a unique network which brings together the largest grouping of national ministries and innovation agencies, including UKRI, to support global business-focussed research and development.



Since EUREKA was founded in 1985, businesses involved have shown annual turnover growth of 15% more than non-participants one year after the project finishing, as well as an additional annual employment growth of 7% compared to non-participating firms.

QMB welcomes new tenant: Roseway Labs



Elizabeth Philp, Roseway Labs

We are pleased to welcome private pharmacy Roseway Labs to QMB, which has taken a two year lease at the incubator.

Headed by Elizabeth Philp, the company specialises in personal medicine in the private healthcare market, serving a growing demand for wellness and anti-ageing remedies.

"Our customers are doctors and our mantra is 'hair, skin, fit from within'. We're looking to help people who want to stay young and feel young but people don't want to wait until they've got a problem. Whilst we offer cosmetic and vitamin products, it's predominantly licenced and unlicensed prescription medicine," said Philp.

Philp studied chemistry and mathematics at Leeds University before embarking on a varied career in HR with Aon and Tetley and then as a management consultant with KPMG, before a return to making "potions and lotions" beckoned. So, with a return to chemistry of sorts, does she feel like she's come full circle?

"You could say that. I spent a lot of my childhood making potions and lotions and that's all I wanted to do. That's why I got into chemistry and why I studied it at university," says Philp.

Her biggest inspiration for setting up her own business came from her husband, who set up his first business at age 24.

"My husband has always worked for himself but I'd never really felt like taking the plunge. Perhaps it's a confidence thing or as a consequence of always working in large corporates, I don't know. It's a big step," says Philp.



ROSEWAY
— LABS —

The lightbulb moment for starting her own business came while she was studying for her MBA, writing case studies for her entrepreneurial professor on how to finance a start-up company.

"We've gone all over the world and interviewed some amazing founders, and you start to see the patterns to success. I then started to mentor at the entrepreneurial summer school they run at the London Business School and mentored start-ups at the Prince's Trust, working with these amazing people. So that really spurred me on to set up my own business," said Philp.

After moving into QMB in early May, the company completed a successful fundraising round. Right now, Philp and her colleagues are busy setting up suppliers, buying equipment and approaching customers, with a view to start trading later this month (July).

Philp says: "QMB have been incredibly supportive, right from when I made the first tentative enquiries. If you want to deal with medicines, you need some sort of laboratory and I wasn't sure what was available. London is a hot market, with a very small number of places to consider if you want to set something up in central London. We're hugely excited about being part of the community here."



QMI spin-out **BioMin** secures £2m to export toothpaste technology to China

BioMin Technologies Ltd, a Queen Mary University of London spinout company specialising in oral hygiene, has secured a licensing agreement with a leading Chinese toothpaste manufacturer, which should generate sales of £2m over the next five years.

BioMin secured the agreement after the company met with Guangdong KanWan Cosmetics Co. Ltd, a major Chinese toothpaste manufacturer, in 2016 as part of a technology partnering mission between the UK government's Science and Innovation Network (SIN) and Innovation China UK.

The agreement is the latest licensing win for BioMin, which secured a licensing agreement with Dr Collins, a US-based oral care business, in 2017.



BioMin's toothpaste uses bioactive glass, which contains elements found naturally in the body like calcium, phosphorus, sodium and silica. The technology allows for the slow release of the calcium and phosphorus ions, which is more effective in replacing lost minerals from tooth surfaces than from conventional toothpastes, ensuring and enhancing the natural self-repair of the tooth surface.

The meeting with Guangdong KanWan Cosmetics Co. Ltd led to the establishment of a manufacturing and distribution licence agreement under which the bioactive glass, manufactured in the UK, will be exported to China for use in toothpaste formulations developed by KanWan.

One of the founders of BioMin, Professor Robert Hill from Queen Mary's Institute of Dentistry, said: "We are delighted to have partnered with a well-established toothpaste manufacturer in China, the country with the largest demand for toothpaste in the world.

He added: "Our former PhD student, Prof Xiaojing Chen, now Professor of Dental Materials at Central Southern University at Changsha, was a key member of our research team and has been instrumental in forging stronger links between Queen Mary and China. Working together with the BioMin business development team and Queen Mary Innovations has helped to secure this commercial success."

Professor Xiaojing Chen, who completed her PhD at the Institute of Dentistry in 2015, said: "It has been very rewarding to be part of a team which has taken a scientific research project to become a commercial reality over a relatively short period."





Pharma apprenticeships hit four-year high



There has been a significant rise in the number of higher level apprenticeships across the pharmaceutical industry over the past four years, according to a new survey by the Association of the British Pharmaceutical Industry (ABPI).

The survey into links between industry and academia shows that global pharmaceutical companies in the UK are turning to apprenticeships to ensure a steady stream of highly-skilled workers and fill skills gaps in key roles.

Since 2015, apprenticeships within the pharma industry rose by 31% (to 388 from 297) and up by 169% since 2013.

Apprenticeships are increasingly being viewed as a viable option to a more traditional academic career path and numbers have risen across the board within the life sciences sector. These are representative as 82% in IT, 21% in engineering and 165% in R&D. Only in manufacturing was there a decrease, with a 13% drop.

The survey also found that undergraduate placements had increased with 704 undergraduate industrial placements (IPs) recorded in 2017, an increase of 17% from 2015. The number of undergraduates starting sandwich courses (combining study with a work placement), increased by 36% over the last five years.

The ABPI asks companies to submit data about their academic links across their entire business, from undergraduate placements to large-scale collaborative projects which bring together industry, academia, charities and the NHS.

Andrew Croydon, Head of Education and Academic Liaison, said: "The growth in IT apprenticeships and undergraduate placements is important and goes some way in filling the skills gap within emerging technologies but if the UK is to retain and grow its world-leading life sciences status, it is crucial to develop a strategic approach in developing a skills pipeline for the entire Life Sciences sector."

Malcolm Skingle C.B.E, Director of Academic Liaison at GSK and Chair of the ABPI Academic Liaison Expert Network, added: "The importance of the Life Sciences sector was highlighted by the Government's Industry Strategy, and it is crucial that we fully exploit the inherent potential this sector holds in order to anchor the UK as a global hub of research and innovation...increasing collaboration is imperative to further developing the UK science base as a whole."

It is expected that this trend within the pharmaceutical industry will continue increasing its apprenticeship base to meet its ambition to reach 20,000 apprenticeships in the science sector by 2020.

Metamaterial Technologies acquires Mediwise Ltd



George Palikaras, CEO, MTI

Metamaterial Technologies Inc. (MTI), a leader in smart materials and photonics, has acquired QMB tenant Mediwise.

Mediwise is a medical research and development company that is pioneering cutting edge wireless devices in medical diagnostics and monitoring. Its patented technology uses metamaterials that can allow access and analysis of accurate diagnostic information from the human body non-invasively.

Mediwise has an extensive patent portfolio with 22 patents in metamaterials for medical applications.

At QMB, Mediwise has made significant advancements in non-invasive glucose monitoring and is working towards developing a new product called Glucowise™ which has the potential to safely detect the concentration of glucose in the blood stream without having to draw blood or use test strips.

"This acquisition represents a significant strategic step in expanding MTI's current portfolio for our shareholders. It will strengthen the company's position in creating a stronger advanced materials business and increase its market potential," said Doug Hall, Chairman of MTI.

George Palikaras, Founder and CEO of MTI, said: "Mediwise technology has the potential to allow users to non-invasively access specific information about their health and their body, faster and more accurately through the science of metamaterials."

George added: "This is a strategic market-extension offering complementary advanced materials technology, intellectual property and new business opportunities for



MTI. In the coming years advanced medical equipment will be less invasive and easier to use. With our technology platform we will enable the design and development of low-cost, energy-saving next generation medical equipment in partnership with OEMs."

"Mediwise is developing product innovations which can be highly disruptive in the health-care industry," said Professor Andrea Alu, Einstein Professor of Physics and Director of the Photonics Initiative at the Advanced Science Research Center at City University of New York. "The company is pioneering metamaterials to advance healthcare, with the application of broadband metasurfaces. These smart materials enable deep tissue, higher quality and faster medical diagnostics like imaging and glucose monitoring and have the potential to drastically improve everyday life," said Alu.

Mediwise was founded in 2010 in London, partnering with Queen Mary University and King's College in London, and the Leiden University Medical Centre in the Netherlands.

MTI is headquartered in Halifax, Nova Scotia and has offices in London and Pleasanton in California. The company specialises in metamaterial research, nanofabrication and computational electromagnetics. The company has developed a new class of optical smart materials changing the way we use, interact and benefit from light.



ADC Therapeutics will only progress the development of ADCs that are best in class

QMB tenant ADC Therapeutics (ADCT), which specialises in the development of proprietary Antibody Drug Conjugates (ADCs) targeting major cancers, has said it will only progress the development of ADCs that demonstrate the potential to be best in class in areas of high unmet medical need.

Chris Martin, ADCT's Chief Executive, said the company has three ADC programmes in the clinic and plan to commence clinical trials for three additional programmes in the next nine months, including a third haematological programme. Two of the company's most advanced clinical programmes are progressing into later stage development over 2018.

Martin's comments come on the back of news the company recently halted the development of ADCT-502, an investigational treatment candidate for HER2-positive solid cancers. The company terminated its Phase 1 trial after it failed to show sufficient patient benefit.

The decision was based on data from the Phase 1 trial (NCT03125200) showing that ADCT-502 did not meet the necessary efficacy and safety profile required for patient benefit. Still, ADC plans to publish the findings of the trial later this year after it has evaluated all the data.

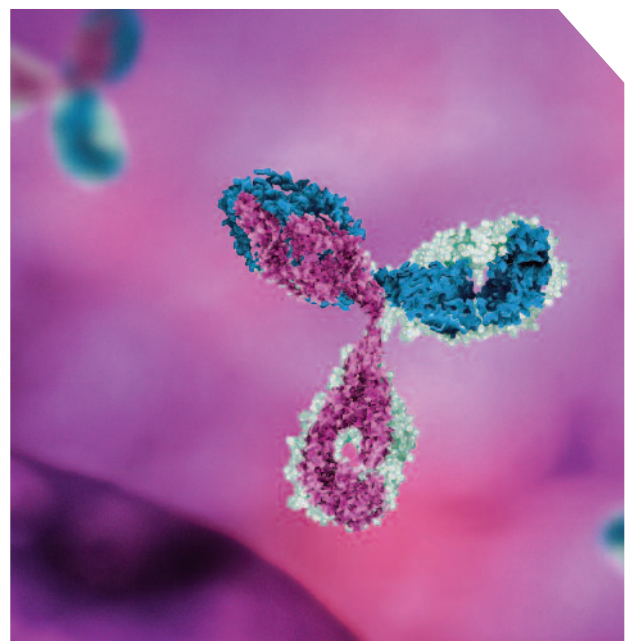
ADCT-502 is antibody-drug conjugate composed of an anti-HER2 antibody bound to a toxic compound. After binding to an HER2-positive cell, it releases its payload, leading to the cell's death without harming healthy tissues.

Chris Martin, CEO at ADCT said: "Patients with HER2 expressing tumours have multiple therapeutic options including novel therapies in clinical development that are producing encouraging data. ADC Therapeutics' strategy is to progress a deep pipeline of ADCs into Phase I in order to assess their clinical and market potential based on actual human data, and only to progress into later stage development those ADCs that demonstrate the potential to be best in class in areas of high unmet medical need."

Dr. Jay Feingold, ADCT's Chief Medical Officer and Senior Vice President of Clinical Development, added: "We are very pleased with the efficacy and tolerability achieved with our

ADC
THERAPEUTICS

lead haematological PBD-based ADC programmes, but regrettably this has not been the case with our HER2 targeted ADC. PBD's (pyrrolobenzodiazepine dimers) are extremely potent and have a well characterised safety profile that includes fluid retention and pulmonary edema. Our next two solid tumour ADCs progressing into the clinic over the next nine months incorporate site specific conjugation technology which, based on pre-clinical models, has the potential to substantially improve tolerability and efficacy in difficult to treat solid tumours."



Pharma chiefs warn Brexit threatens dominance of UK life science sector

Britain's strong global standing in the life sciences sector is in jeopardy through the slow take-up of innovative medicines by the National Health Service and Brexit uncertainty, a group of influential leading pharma businesses has warned.

Writing in the Financial Times, Erik Nordkamp, managing director of Pfizer UK and chairman of the American Pharmaceutical Group (APG), said: "The UK pharmaceutical industry and the patients who rely on it are under serious threat from Brexit as well as from the flawed way medicines are developed, tested and made available to patients in the country."

Nordkamp, who chairs the American Pharmaceutical Group (APG), which represents the 10 largest bio-pharmaceutical companies with a presence in the UK, said the country "must cement its position in life sciences or risk the erosion of a critical industry."

The pharma industry has long lamented the "low and slow" uptake of new drugs by a cash-strapped NHS which drives hard bargains on pricing after evaluating the cost-effectiveness of treatments.

Nordkamp said patients in countries such as France, Germany, Japan and Switzerland "benefit from 75 per cent more treatments in their first year after launch than are available in the UK."

In an APG survey, three-quarters of its members agreed with the proposition that "Britain's position as a world leader [in life sciences] is under threat because of a failure to get treatments to patients more quickly."

Almost all those surveyed — around 98 per cent — said "they prefer to invest in countries that are early adopters of new treatments."

The survey also shows that 86 per cent of respondents, who included executives from Pfizer, Janssen, AbbVie, Amgen, Biogen, BMS, Celgene, Gilead, Lilly and MSD, believed that "uncertainty over Brexit is affecting global decisions on future investments in life science and health industries".

A goal of the UK life sciences industrial strategy, published last year, was that Britain should enter "the top quartile of

comparator countries for speed, adoption and overall uptake of innovative, cost-effective products".

In their discussions with ministers, executives will seek "a clear and binding legal commitment" to implement the strategy, said Nordkamp.

Pharma leaders have for months been forced to plan for a hard Brexit, establishing separate infrastructure to test and release medicines on mainland Europe, amid continuing uncertainty over the eventual shape of a deal.

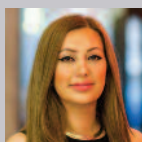
The op-ed from the US pharma group has been timed to coincide with an important meeting between pharma industry representatives and UK government ministers, including Greg Clark, business secretary and health secretary Jeremy Hunt.

In December the government pledged to increase R&D spending by £2.3 billion in 2021/2022 – raising public funding of research to £12.5 billion – with the aim of enlisting the aid of industry to spend 2.4% of GDP on R&D by 2027.





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