Amplia
THERAPEUTICS

Amplia Therapeutics Newsletter

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Amplifying Immunology

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Amplia THERAPEUTICS

Newsletter

Welcome to the First Quarterly Newsletter for 2019

Since the merger with Innate Immunotherapeutics in May last year, we have made a great deal of progress. The purpose of this newsletter is to explain what was accomplished in the last half of 2018, and what you can expect your company to achieve in the first part of 2019.

Amplia Therapeutics Limited (Amplia) is developing a pipeline of highly promising drug candidates that target focal adhesion kinase or "FAK". FAK plays a critical regulatory role in aggressive cancers such as pancreatic, ovarian, and triple-negative breast cancer. FAK also plays a fundamental role in fibrotic diseases such as idiopathic pulmonary fibrosis (IPF) and non-alcoholic steatohepatitis (NASH). Patients with these serious diseases need more effective and better-tolerated treatments. Medicines that safely and effectively inhibit FAK could deliver significant clinical benefit for patients with these "fibrotic" diseases – both for cancer and chronic applications.

Our two lead molecules, referred to as AMP945 and AMP886, inhibit FAK. These drug candidates were developed through world-class research conducted at the Melbourne-based Cancer Therapeutics Cooperative Research Centre. This is the same cluster of research talent that has successfully achieved multi-million dollar licensing deals for early stage cancer assets with both Pfizer and Merck.

Several "Big Pharma" firms are interested in FAK as a novel drug target but do not have meaningful FAK programmes of their own due to the scarcity of high-potential product candidates. Both AMP886 and AMP945 have the general qualities that make them worthy of further development including, excellent potency and selectivity, suitability for oral administration, cost-effective and scalable production, and strong intellectual property (IP) coverage.

Our near-term goal is to validate that AMP945 inhibits FAK in humans at doses that are well tolerated when given as repeat daily doses. The first clinical study will be conducted – in 2020 – as a Phase I study in healthy volunteers. We have chosen to do this initial study in healthy volunteers because it enables us to develop a data set that will support the simultaneous development of the lead program (AMP945) in both cancer and fibrosis indications. This is a unique differentiator of the Amplia clinical development strategy and a significant benefit to shareholders. A subsequent study in mid-2020 will be a Phase II study in patients to establish therapeutic benefit in a key oncology indication. Successful commencement and completion of each of these development stages will create major value inflection points for shareholders and reinforce the existing level of commercial interest in our assets.

2018 Achievements

We announced the acquisition of the 'Amplia FAK assets' through the merger with privately owned Amplia Therapeutics P/L in late March 2018. The transaction was completed in May and the company name changed to Amplia Therapeutics Limited in September of last year.

One of Amplia's most significant assets is the experienced team that has come together to drive the business forward. Our shared experience includes in-depth knowledge of fundamental cancer biology, clinical development leading to new drug approvals, strategic protection and value creation from intellectual property, and in-depth understanding of commercialisation strategies in the biopharma business.

The new combined team quickly launched into preclinical completion activities and wasted no time in also commencing the clinical development of our drug assets.

The Amplia Team

(Top to Bottom). Dr. Warwick Tong (Chairman), Mr. Simon Wilkinson (CEO), Dr. Robert Peach (Director), Dr. Chris Burns (Director/Chemistry), Dr. Christian Behrenbruch (Director), Mr. Andrew Cooke (Director and Company Secretary), Dr. Mark Devlin (Chief Scientist), Dr. John Lambert (Operations Manager), Mr. Mark Sulllivan (Regulatory Advisor), and Dr Damian Slizys (Intellectual Property Advisor).

We acknowledge that our corporate diversity profile does not meet the standard of a modern healthcare company. We are actively working to address this in our future appointments.

AMP945 – Formulation and New Intellectual Property

Before the end of May we initiated work to establish the formulation of AMP945 for (oral) therapeutic application. A leading drug formulation team, guided by Amplia Director and medicinal chemist Dr. Chris Burns, was contracted to carry out this project in the United Kingdom.

The project produced a successful outcome in November with an optimized formulation of AMP945 with a considerably enhanced dosing and bioavailabilty profile. Importantly, this work represents a new body of IP for AMP945 that is reasonably expected to provide additional protection out to approximately 2040.

Drug Manufacturing and Production Scale-Up

One of the strongest attributes of the Amplia assets is the quality and extent of the manufacturing process developed for both AMP886 and AMP945, which is a major de-risk for investors and future commercial partners. The stability of both compounds is impressive. In readiness for clinical trials the existing manufacturing process needed to be successfully transferred, optimised (where possible) and scaled-up to produce the quality of material necessary for human administration – or “GMP" quality.

This important project has been led by Dr. Chris Burns and Dr. John Lambert (Amplia’s Operations Manager, appointed last August). Late last year, Chris and John selected and appointed a contract manufacturing organisation (CMO) to undertake this work. The choice of CMO was based on their ability to deliver our specific processes plus their audit track-record, particularly with the US Food and Drug Administration. Our CMO has now successfully established our production process, introduced certain improvements to assist scale up, and is now carrying out the work required to deliver kilo quantity batches of GMP grade AMP945 in the next few months.

Toxicology and Safety Studies

Before any drug candidate can be tested in humans, it must be tested in pre-clinical studies to ensure that the planned human dosing regimen poses a manageable level of risk. These studies need to be thoroughly designed and monitored as the data will be carefully scrutinised by ethics committees and regulators (such as the TGA and FDA) and will also become a critically important part of the product development profile that we will be building around our assets.

To ensure appropriate study design and vendor selection, we engaged Dr. Jerry Fisher, an expert toxicologist based out of the US. Jerry was formally Senior Vice-President (Drug Safety and Metabolism) at Pfizer and former editor of Drug and Chemical Toxicology and a member of the editorial boards of several pharmacology and toxicology journals. His advice has been invaluable.

In collaboration with John, Jerry led the qualification of several toxicology vendors before selecting a contract research organization with an internationally-established reputation for quality and delivery. A master services agreement covering the comprehensive package of required studies was executed in November and detailed project planning concluded late last year. Two weeks ago, John initiatied the preliminary dose range-finding studies. These studies will extend into the second quarter of 2019 and will help answer the question "'what drug dose is likely to be both optimally efficacious and safe.”

Intellectual Property Prosecution

A strength of Amplia’s assets is our intellectual property position. Each molecule in our pipeline is protected by a separate patent family, which provides robust coverage. Both the AMP886 and AMP945 patents have been granted in the US, Canada, Japan, China, and Australia, and last August the European Patent Office granted patent protection for AMP886 and also issued an 'intention to grant' notice with respect to AMP945. Once the AMP945 EU patent is granted (expected this month) both molecules will have the benefit of "composition-of-matter" patent coverage in major commercial markets with protection out to 2034.

We have a clear strategy to further extend the patent life of our technology. The initial focus has been on AMP945 and, as mentioned previously, formulation improvements have led to new patent applications that are reasonably expected to extend patent protection of our assets out to 2040.

What's Coming Next?

We expect the first six months of this year to be extremely busy with work that will pave the way to clinical studies. Here are some of the expected highlights:

Scientific and Clinical Advisory Boards (SAB/CAB) - we expect to finalise and announce the composition of our SAB and CAB very soon. Due to the fact that AMP945 and AMP886 have exciting applications in different disease areas and depending on the disease, either on a standalone or combination treatment basis, expert advice from a range of scientific and medical perspectives is vital. The establishment of both a formal SAB and CAB will compliment the experience of the management team and the excellent technical advice we are already receiving from thought leaders in field.

Scientific Partnerships - We are working with the world's leading FAK research group at the University of Edinburgh to ensure that as we move into Phase II studies in patients we have the best available data set to guide decision-making. The Edinburgh group, led by Prof. Margarget Frame, is strongly supported by the world's largest cancer charity, Cancer Research UK (CRUK). CRUK is also a significant Amplia shareholder.

Phase I Clinical Trial Progress - The design of our initial clinical study is substantially complete and scoping discussions with potential clinical trials sites took place late last year. We will complete the site selection and contracting process within the next two months and expect to announce the outcome of those efforts immediately thereafter.

Completion of GMP-Manufactured AMP945 - As noted in the manufacturing update, excellent progress has been made transferring, improving and scaling up the production of AMP945. The first kilo-scale batch of clinical grade AMP945 drug material is expected to be completed by early April.

Pancreatic Cancer Study - Pancreatic cancer has the poorest survival outcome of most common cancers and is predicted to become the 4th most common cancer killer by 2030. Peer-reviewed studies carried out by academic researchers clearly demonstrate that blocking FAK in animal models can sensitise pancreatic tumours to existing anti-cancer treatments including chemotherapy. This month we began testing both AMP886 and AMP945 in a validated pancreatic cancer model. In these studies, both our drug candidates are being used in separate combinations with gemcitabine, a key drug used in the treatment of this cancer.

For further information please email info@ampliatx.com or visit www.ampliatx.com