Benitec Biopharma Investor Webinar on the Company's Oculopharyngeal Muscular Dystrophy (OPMD) Program Question and Answer Transcript

Sydney Australia, 16 May 2018: Benitec Biopharma Limited (ASX: BLT; NASDAQ: BNTC; NASDAQ: BNTCW) today posted its transcript for Question & Answer at the investor webinar on the Company's oculopharyngeal muscular dystrophy (OPMD) Program took place at 6.30am AEST on 16 May, 2018.

Question 1: What will it take to get this to market?

[Georgina]: I can describe our thinking at this time which is pretty reflective of the discussions we have had with the regulatory agencies. BB-301, being a gene therapy product and with OPMD being an orphan disease where there is no current treatment, we wouldn't anticipate that it will go through a standard process of Phase I, Phase 2, Phase 3. What we have been talking to the FDA and other regulatory agencies about is that assuming no safety signals are seen in the first study and that we do see pretty good indications of clinical efficacy, that we would move straight from the Phase I/2A study into a single small Phase 3 study to support approval. Obviously, if we saw something untoward or we don't find an effective dose, we may need to do more studies and likewise if we see really good efficacy, we may have discussions with the regulatory agencies about progressing even faster towards the market. So, at the end of the day, it is really going to depend on the outcomes of the first study. We are working to design that first clinical study in such a way that it will maximise our opportunities for success and give us the fastest path forward to approval.

Question 2: You talk about silence and replace approach in other areas, can you expand on this?

[David]: Just to reiterate one of the key points from this topic is that what we talk about with BB-301 is that because we use endogenous cellular machinery for the shRNAi and its already precedented, its programmed and ready to go, and the short RNA that we are adding has the ability to knock down disease phenotypes, that it leaves a lot of extra packaging capacity left over to express other things like normal genes. So really the question is what other things could we go for and, certainly understanding that OPMD is a polyalanine expansion disease where you produce a mutant protein that needs to be knocked down and still replace a normal wild type copy, I can see a large number of other similar types of diseases that are poly-expansion diseases. In fact, one of the ones that people are working on actively is Huntington's disease program where it is a polyglutamine type of disease, or polyq disease, that has a similar phenotype to produce a mutant protein that really loses function. So, with Benitec, obviously this silence and replace in a single vector based system is really unique to what we do and represents a great therapeutic niche for the development of other diseases and we continue to look at similar types of diseases as well as a few others to really be able to apply this technology moving forward. Really then OPMD is just a bell weather in terms of other diseases like that, that we can really move forward with.

Question 3: Next question is for Dr Brais. How do you think BB-301 will fit into your treatment paradigms for your patients?

[Dr Bernard Brais]: As you know from the presentation this is a revolutionary treatment. The first application to the major symptom, the dysphagia, may completely change our way of treating those patients. In time, if we can correct the disease to the extent that the dysphagia disappears, and as I insisted on my presentation, we will have very happy patients. And with a lot less morbidity, probably longer life expectancy, and all these social impacts of the disease will change So, I suspect this new

therapeutic approach for the dysphagia will be introduced it will completely change our treatment paradigm.

Question 4: Next question is also for Dr Brais. What do you think BB-301 will need to do to make a difference for patients?

[Dr Bernard Brais]: I think we hear from patients that the major symptoms are related to the dysphagia. So, if the treatment is very good for correcting forever this symptom then what we are going to hear from patients and treating physicians like myself is can we apply this technology to more of the body. This is a selective regional dystrophy. So, whether this technology will go to a next step and be used to address some of the other weakness, the weaker muscle, will be really at the top of our pre-occupation. In the short term however, the emphasis on the dysphagia will make a huge difference for patients because it is the major symptom for quality of life and healthy living in aging. So, I suspect this is really where the difference will lie.

Question 5: What are the clinical end points you are talking about?

[Georgina]: The clinical end points that we are looking at are very much quantitative measures of swallowing. We think it is important that these are quantitative to really show the impact that BB-301 can have on OPMD patients. Historically, when you look at dysphagia in OPMD and other diseases, I think the tools used have been quite subjective. For example, the water swallow test which is where patients are given a glass a glass of water and the time it takes them to drink it is measured. That is on the main ones that has been used. We will obviously be including this in our assessments but I think we are going to try and fold in some of the newer and more quantitative measures of swallowing and this includes such things as video fluoroscopy and high-resolution manometry. You saw video fluoroscopy data on some of David's earlier slides today. It is a real-time x-ray that looks at the ability to swallow safely and effectively. High-resolution manometry looks at the pressure during the swallowing and that can be translated into a measure of the efficiency of swallowing. Both of these can be quantitatively measured making them much more objective in their nature. Lastly with respect to clinical end points, because the swallowing has such an impact on the patient's quality of life, it is very important that we look at patient reported outcomes. So we will be looking at things such as swallowing related quality of life and also patient reported changes in their swallowing function and how much food they are able to take in.

Additional post-webinar questions

Question 6: As OPMD is a rare disease, how will the cost to develop BB301 gene therapy be recovered? Is this administered in a hospital setting?

[David]: Development costs associated with a drug like BB-301 are recovered most typically through drug pricing after the compound has gone through the clinical trials process and has accrued enough data to be reviewed by specific regulatory agencies such as the US Food and Drug Administration (FDA) or similar agencies in other countries. Once a company has been granted approval by these agencies to sell the drug commercially, pricing is set for the compound. For BB-301, as a gene therapy agent, the product is intended to be administered in a hospital setting for the initial human clinical studies.

Question 7: Assuming all goes well - in future, will treatment also be administered to the proximal muscles? I have OPMD and at this point - at age 62 - my most limiting manifestation is leg weakness.

[David]: Currently, the initial clinical trial for OPMD is designed to treat the dysphagia related to the disease. As a result, the plan if for BB-301 will be administered by direct injection into the muscles in the pharyngeal region, including the cricopharyngeus muscle. In the future, the Company plans to look at testing in preclinical animal models using methodologies which may be applied systemically or to other impacted tissues such as proximal muscles which, if successful, may be moved into human clinical testing.

Question 8: As BB-301 uses a non-integrating vector, won't mitosis in the muscle cells gradually dilute the effect of BB-301? If so, how long is the therapeutic effect estimated to last?

[David]: Skeletal muscle, the main type of muscles found in the pharyngeal region, is a post-mitotic tissue meaning that by and large, most of the cell division has stopped. New muscle tissue may form as a repair mechanism as a result by regeneration from a population of satellite cells, which as a stem-cell like entity can result in the formation of new muscle. It is important to note that scyncytia formation, in which muscle fibres form by the fusion of thousands of individual muscle cells, may help with the distribution of the vector throughout the tissue. As with most AAV vectors, as long as the majority of those muscle cells remain stable, healthy and transcriptionally active, it is believed that expression has the potential to last years, perhaps even the lifetime of the individual. Similar types of AAV9-based studies in muscle tissues in which a mini-dystrophin gene has been delivered for the treatment of Duchenne Muscular Dystrophy have been reported to show consistent and steady levels of expression of the protein in dog models out 8 years as of 2016.

For further information regarding Benitec and its activities, please contact the persons below, or visit the Benitec website at www.benitec.com.

Australia Investor Relations

Market Eye
Orla Keegan
Director
Tel: +61 (2) 8097 1201
Email: orla.keegan@marketeye.com.au

United States Investor Relations

M Group Strategic Communications
Jay Morakis
Managing Director
Tel: +1 212.266.0191
Email: jmorakis@MGroupSC.com

About Benitec Biopharma Limited:

Benitec Biopharma Limited (ASX: BLT; NASDAQ: BNTC; NASDAQ: BNTCW) is a biotechnology company developing innovative therapeutics based on its patented gene-silencing technology called ddRNAi or 'expressed RNAi'. Benitec Biopharma is based in Sydney, Australia with laboratories in Hayward, California (USA). The Company is developing ddRNAi-based therapeutics for chronic and life-threatening human conditions including OPMD, head & neck squamous cell carcinoma, retinal based diseases and hepatitis B.

About OPMD:

OPMD is a rare inherited myopathy characterized by dysphagia (difficulty in swallowing), the loss of muscle strength, and weakness in multiple parts of the body. Patients typically suffer from severe dysphagia, ptosis (eye lid drooping), tongue atrophy, proximal lower limb weakness, dysphonia (altered and weak voice), limitation in looking upward, as well as facial muscle and proximal upper limb weakness. Progressing throughout that patient's life, OPMD is not typically diagnosed until the individuals reach their late 40s. As the dysphagia becomes more severe, patients become malnourished, lose significant weight, become dehydrated and suffer from repeated incidents of aspiration pneumonia. The last two symptoms are often the cause of death. No cure is currently available for OPMD. The cricopharyngeal myotomy is the only treatment available to improve swallowing in these patients, but because the root cause of the genetic disease has not been addressed, the pharyngeal musculature still undergoes progressive degradation leading to the previously mentioned complications.