IMUGENE TO ACQUIRE BIOLIFE SCIENCE QLD LIMITED

Highlights:

- **Biolife Science Qld Limited (Biolife) is a cancer immunotherapy company targeting HER-2 specific cancers, including gastric cancer and breast cancer**
- **The immunotherapy has the potential to be more effective than Herceptin®, a monoclonal antibody with 2012 sales of $6.4 billion which improves the survival rates of women with HER-2 positive breast cancer and prevents its recurrence**
- **Phase I human trials successfully completed and Phase II trials under an FDA Investigational New Drug Application (IND) to commence in 2015**
- **First target disease is gastric (stomach) cancer**
- **Over the past 10 years significant investment of ~$8 million**
- **Capital raising of $2.5 million to accompany the acquisition resulting in working capital of ~$3 million**

Melbourne, 23 October 2013: Australian drug development and pharmaceutical company Imugene (ASX.IMU) is pleased to advise that, consistent with its strategy to diversify through acquisition, it has today executed a Sale and Purchase Agreement to acquire 100% of Biolife Science Qld Limited (Biolife), a company incorporated in Australia.

Biolife has the rights to a novel cancer immunotherapy platform that has been developed by scientists at the University Medical School in Austria. The scientists have developed a peptide-based immunotherapy that induces a polyclonal antibody response against HER-2/neu associated tumours, including breast cancer and gastric cancer ("HER-Vaxx").

HER-2/neu is a known and validated receptor that is over-expressed on various cancerous tumours, including gastric, breast, ovarian and pancreatic cancers. Having already successfully completed a Phase I human study in breast cancer, a Phase II study in gastric cancer is planned to potentially commence in calendar 2015, subject to FDA approval.

Forrest Capital coordinated the acquisition and will be lead manager for the capital raise.

Key information on the Biolife technology, intellectual property, market potential and previous studies are included in Appendix A.

Imugene will, subject to Shareholder approval:

- Issue 300 million shares to purchase 100% of Biolife Science Qld Ltd.
- Raise an additional A$2.5 million via the placement of 250 million shares at $0.01. The placement will be managed by Forrest Capital, 85 million shares issued within current capacity with the balance subject to shareholder approval.
- Dr Axel Hoos current vice president, Oncology R&D at GlaxoSmithKline is expected to join the board as Non-Executive Director.

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Contact: Dr Nick Ede, Executive Director Imugene on 0400 642 254 or nede[at}imugene.com
Media contact: Dr Douglas Pretsell, College Hill – +61 3 9657 0706 / douglas.pretsell[at]collegehill.com

Appendix

THE TECHNOLOGY

The intellectual property being acquired relates to a potential novel immunotherapy, HER-Vaxx, that has to date been shown to trigger an immune response to HER-2 present on certain types of breast and gastric cancers. HER-Vaxx is a peptide vaccine that induces an antibody response targeted against tumours that exhibit a great number of HER-2 receptors upon tumour cells.

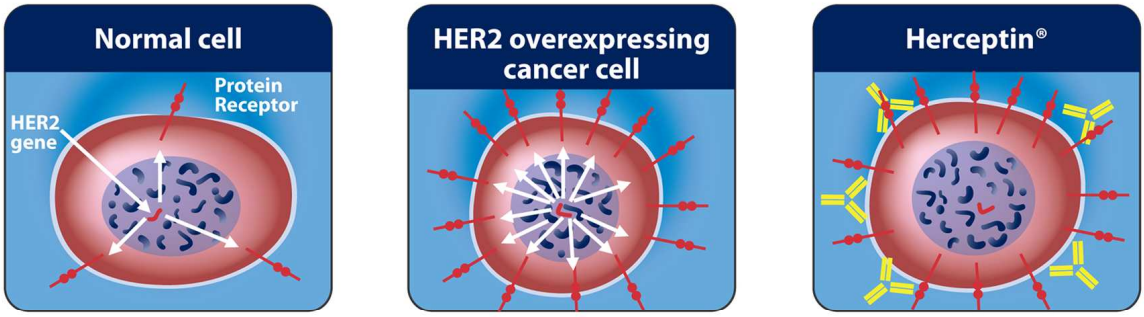
HER-2 communicates molecular signals from outside the cell to inside the cell and controls the activation of genes, which in turn control cell multiplication, proliferation and tumour cell spread. In some cancerous cells, including those present in certain types of breast and gastric cancer, HER-2 is over-expressed, causing cancer cells to reproduce uncontrollably. HER-2 is over-expressed in 15% of invasive breast as well as in 19% of gastric cancers.

One of the most prevalent and effective treatments for HER-2 positive cancers is a pharmaceutical known as Trastuzumab. Trastuzumab is a monoclonal antibody that was developed by Roche Ltd and Genentech Inc. and is marketed as "Herceptin®". Although Herceptin® has proven to be effective in the treatment of early stage and metastatic breast cancer, a course of Herceptin® treatment can cost as much as US$100,000 per year. While certain private insurance companies in the United States and state health care providers in Canada, the United Kingdom and elsewhere do provide reimbursement for Herceptin® treatment for certain patients, some countries and state health care providers do not include it as a covered treatment.

The original studies of Herceptin® indicated that it improved overall survival in late-stage (metastatic) breast cancer from 20.3 to 25.1 months. It is commonly administered in conjunction with chemotherapy.

Herceptin® operates by binding to one particular site (epitope) on HER-2 and blocks the growth signals that cause the cancerous cells to proliferate. It acts to slow the rate of growth of cancerous cells and acts through several mechanisms to kill tumour cells.

The following diagram shows how cell growth is controlled in normal and HER-2 overexpressing cells and how Herceptin® slows the rate of growth of cancerous cells:



In normal cells, the HER2 gene produces a protien receptor on the cell surface.

These growth-like receptors signal the cell to divide and multiply.

Cancer cells that over-produce HER2 gene produce many more receptors.

This triggers the cell to divide and mulitply at an accelerated rate, thus contributing to tumour growth.

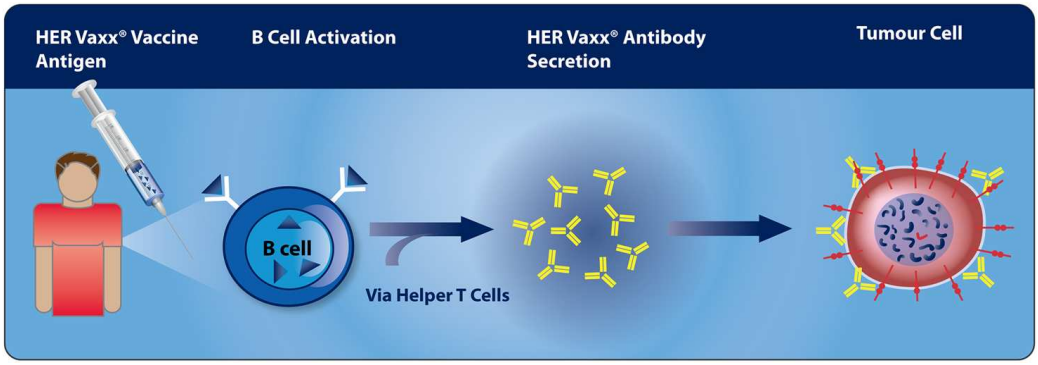
Herceptin® is an injected synthetic HER2 antibody. It binds to the HER2 receptor sites and blocks their growth signals.

In this way, the HER2 antibody is thought to slow the rate of growth of cancer cells

Source: Biolife

Imugene Limited
ACN: 009 179 551
Suite 1, 1233 High Street, Armadale, VIC, 3142
Phone: 03 9824 5254 Fax: 03 9822 7735

HER-Vaxx's delivery mechanism is different, and potentially superior, to that of Herceptin®. Instead of regularly injecting a monoclonal antibody that recognises only one specific segment of HER-2, HER-Vaxx comprises a peptide that, when introduced to the body, is designed to induce a polyclonal antibody response that targets more than one site of HER-2. It therefore may potentially elicit a more powerful anti-tumour effect and should result in the treatment being able to target cancer at an earlier stage than Herceptin®. The following diagram illustrates how HER-Vaxx is intended to work:



Source: Biolife

Rather than injecting a ready-made antibody, HER-Vaxx is a novel immunotherapy that activates a patient's own immune system to produce its own antibodies, effectively turning the patient's body into a "Herceptin® factory". In contrast to Herceptin®, which requires regular injections, with HER-Vaxx the body produces a constant supply of antibodies.

Furthermore, because HER-Vaxx is an immunotherapy, it may achieve a longer-lasting immune response than Herceptin®, which does not inhibit tumour re-occurrence. Furthermore, by choosing a selection of peptide epitopes it can potentially target, one of which is proximate to the Herceptin® binding region, similar mechanisms of action can be anticipated.

HER-Vaxx comprises three non-contiguous peptides derived from sequences of HER-2. In pre-clinical *in vivo* experiments as well as Phase I clinical trials in humans undertaken in relation to HER-Vaxx, it proved to induce a humoral and cellular immune response directed against HER-2 with negligible toxicity.

COMMERCIAL OPPORTUNITY

Gastric or stomach cancer is the second most common cause of cancer-related death in the world, with over 1,000,000 worldwide cases of gastric cancer diagnosed each year. Sales of gastric cancer pharmaceuticals are expected to experience growth over the next decade with sales expected to increase to nearly US$2.3 billion by 2021.

Approximately 19% of patients with metastatic gastric cancer are HER-2 positive. This is commonly treated by surgery and/or a combination of chemotherapy and Trastuzumab/Herceptin®.

Breast cancer is the most common invasive cancer in women and was estimated to have caused half a million deaths in 2008. The incidence of breast cancer is most common in developed countries, including North America, Europe and Oceania, largely as a result of modern lifestyles. 25% to 30% of breast cancers are HER-2/neu positive and the principal form of treatment is with monoclonal antibodies, such as Herceptin®, combined with chemotherapy.

Herceptin® has annual sales of over US$6.4 billion and is currently approved for inclusion on the Pharmaceutical Benefits Scheme by the Therapeutic Goods Administration (TGA) for the treatment of breast cancer. A course of Herceptin® costs in the order of $50,000 in Australia and as much as US$70,000 in the United States.

INTELLECTUAL PROPERTY

The patents and intellectual property (IP) have been developed by a group of prominent Austrian oncologists and immunologists at the University of Vienna Medical School and the patents and IP will be transferred to Imugene post acquisition.