IMUGENE
Developing Cancer Immunotherapies

ASX Announcement

Imugene's oncolytic virotherapy VAXINIA and B cell immunotherapy HER-Vaxx featured at the AACR Annual Meeting 2024

- Oncolytic virus CF33-hNIS (VAXINIA) alone or in combination with KEYTRUDA® is a safe treatment option for advanced cancer patients.
- Encouraging VAXINIA efficacy, including a complete response (CR) and two partial responses (PRs), has warranted cohort expansions in biliary tract cancer and other tumour types.
- Compared to chemotherapy alone, vaccination with HER-Vaxx was associated with a 40% overall survival benefit.
- HER-Vaxx induced HER2-specific antibody levels correlate with tumour reduction.

Sydney, Australia, 8 April 2024: Imugene Limited (ASX: IMU), a clinical stage immuno-oncology company, is pleased to announce poster presentations featuring its CF33 oncolytic virotherapy VAXINIA and B cell immunotherapy HER-Vaxx at the American Association for Cancer Research (AACR) Annual Meeting 5-10 April 2024, in San Diego, CA.

Daneng Li, M.D., a City of Hope associate professor in the Department of Medical Oncology & Therapeutics Research commented, "The results show that our novel oncolytic virus — both alone or in combination with immunotherapy — has the ability to control various cancer types previously resistant to other treatment options, and these early results provide patients with hope of a new treatment option for cancers refractory to standard treatment."

Imugene Managing Director & CEO Leslie Chong said: "Preliminary data from the MAST trial demonstrates encouraging anti-tumour activity with our oncolytic virus CF33-hNIS (VAXINIA). Notably, one patient with cholangiocarcinoma, or biliary tract cancer, achieved an immunological complete response (CR), meaning the disappearance of all

signs of their cancer after treatment with VAXINIA, with no known recurrence after one year. These encouraging results warrant further investigation in patients will biliary tract cancer and other cancers. In addition, further analysis of the T cell repertoire reveals that T cell diversity may serve a predictive biomarker, which can be used to prospectively identify appropriate patients for treatment."

Details on the poster presentations are below:

> **Presentation Title:** Oncolytic virus CF33-hNIS for the treatment of advanced cancer
> **Abstract Presentation Number:** CT182
> **Session Date and Time:** Tuesday April 9, 2024, 9:00 AM - 12:30 PM PT
> **Session Title:** First-in-Human Phase I Clinical Trials 2
> **Presenter:** Daneng Li, MD

Highlights include:

- At the data cut-off of 19 December 2023, there were 31 efficacy-evaluable patients in the MAST study. In the intratumoural (IT) cohorts, 7 of 16 (44%) injected lesions had a reduction in tumour burden and 3 lesions were completely eradicated. Three of the IT treated patients had an objective response: 1 complete response by iRECIST in a patient with cholangiocarcinoma and 2 partial responses by RECIST in patients with melanoma. In the intravenous (IV) cohorts, 9 of 17 (53%) patients achieved stable disease as their best response. Patients who received prior checkpoint blockade therapy derived clinical benefit with and without pembrolizumab. Viral replication, assessed by SPECT, was higher in patients who had a reduction in tumour burden.
- Patients with a higher level of T cell diversity in peripheral blood (pre-treatment) respond better to VAXINIA therapy, consistent with the known mechanism of action of oncolytic virotherapies and their ability to promote an anti-tumour T cell response.
- Both IT- and IV-treated patients have promising immunological changes in on-treatment tumour biopsies (including increases in cancer fighting CD8 T cells

and PD-L1 expression) indicated that VAXINIA can transform the tumour microenvironment.

- Several patients have had prior treatment with checkpoint blockade, including a stable disease cholangiocarcinoma patient and two melanoma partial response patients. This suggests that VAXINIA +/- checkpoint inhibitor combination could be used in the checkpoint therapy refractory setting, which is seeing a growing and unmet market in oncology, by altering the tumour microenvironment.

Presentation Title: Frontline vaccination with the B-cell peptide compound HER-Vaxx (IMU-131), combined with standard-of-care chemotherapy induces high levels of HER2-specific antibodies mediating ADCC and intracellular phosphorylation inhibition resulting in overall survival benefit in patients with HER2+ metastatic or advanced gastric/GEJ adenocarcinoma – Final results from Phase II/HERIZON study
Poster Number: CT215
Session Date and Time: Tuesday April 9, 2024, 9:00 AM - 12:30 PM PT
Session Title: Phase II Clinical Trials 1
Presenter: Joshua Tobias Ph.D.

Highlights include:

- HER-Vaxx treatment produced robust anti-HER2-IgG and IgG1 antibody response ($p<0.001$).
- HER-Vaxx induced HER2-specific antibodies able to mediate antibody-dependent cell cytotoxicity (ADCC) and inhibit intracellular HER2 phosphorylation and correlated with tumour reduction.
- The HER-Vaxx induced HER2-specific antibodies demonstrate a similar mechanism of action to HERCEPTIN® validating B cell immunotherapy as an alternative anti-cancer agent to monoclonal antibodies.

About the MAST Trial

The multicenter Phase 1 MAST trial commenced by delivering a low dose of VAXINIA to patients with metastatic or advanced solid tumours who have had at least two prior lines of standard of care treatment. The City of Hope-developed oncolytic virus has been

shown to shrink colon, lung, breast, ovarian and pancreatic cancer tumours in preclinical laboratory and animal models[1]. Overall, the study aims to recruit cancer patients across approximately 10 trial sites in the United States and Australia.

The clinical trial is titled "A Phase I, Dose Escalation Safety and Tolerability Study of VAXINIA (CF33- hNIS), Administered Intratumorally or Intravenously as a Monotherapy or in Combination with Pembrolizumab in Adult Patients with Metastatic or Advanced Solid Tumours (MAST)." The trial commenced in May 2022 and is anticipated to run for approximately 24 months while being funded from existing budgets and resources.
Full study details can also be found on clinicaltrials.gov under study ID: NCT05346484.

For more information please contact:

Leslie Chong
Managing Director and Chief Executive Officer
info@imugene.com

Investor Enquiries
shareholderenquiries@imugene.com

Media Enquiries
Matt Wright
matt@nwrcommunications.com.au

Connect with us on LinkedIn @Imugene Limited
Follow us on Twitter @TeamImugene
Watch us on YouTube @ImugeneLimited
Join us on InvestorHub; **investorhub.imugene.com**

About Imugene (ASX:IMU)

Imugene is a clinical stage immuno-oncology company developing a range of new and novel immunotherapies that seek to activate the immune system of cancer patients to treat and eradicate tumours. Our unique platform technologies seek to harness the body's immune system against tumours, potentially achieving a similar or greater effect than synthetically manufactured monoclonal antibody and other immunotherapies. Our pipeline includes an off-the-shelf (allogeneic) cell therapy CAR T drug azer-cel (azercabtagene

zapreleucel) which targets CD19 to treat blood cancers. Our pipeline also includes multiple immunotherapy B-cell vaccine candidates and an oncolytic virotherapy (CF33) aimed at treating a variety of cancers in combination with standard of care drugs and emerging immunotherapies such as CAR T's for solid tumours. We are supported by a leading team of international cancer experts with extensive experience in developing new cancer therapies with many approved for sale and marketing for global markets.

Our vision is to help transform and improve the treatment of cancer and the lives of the millions of patients who need effective treatments. This vision is backed by a growing body of clinical evidence and peer-reviewed research. Imugene is well funded and resourced, to deliver on its commercial and clinical milestones. Together with leading specialists and medical professionals, we believe Imugene's immuno-oncology therapies will become foundation treatments for cancer. Our goal is to ensure that Imugene and its shareholders are at the forefront of this rapidly growing global market.

Release authorised by the Managing Director and Chief Executive Officer Imugene Limited.