ASX & Media Release

Patrys demonstrates potential for deoxymabs in antibody drug conjugates (ADCs)

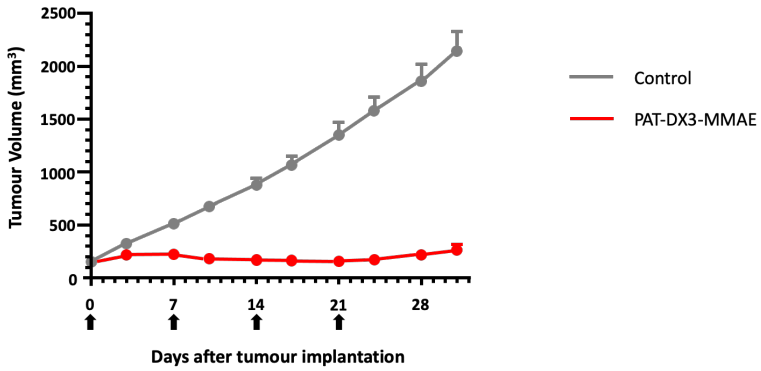
Melbourne, Australia; 15 September 2021: Patrys Limited (ASX: PAB, "Patrys" or the "Company"), a therapeutic antibody development company, is pleased to announce new data from a successful preclinical study highlighting the potential for using its deoxymab antibodies as targeting agents in antibody drug conjugates (ADCs). This promising approach may open up a range of new potential development and partnering opportunities for the Company.

Antibody drug conjugates (ADCs) harness the targeting attributes of antibodies to deliver payloads (usually small molecule therapeutics) specifically to the sites of disease and are one of the most active areas of drug development.

Patrys now confirms that it has been able to conjugate an anticancer drug called monomethyl auristatin E (MMAE) to its full-sized IgG deoxymab, PAT-DX3. MMAE is a highly potent anti-cancer compound which, due to its extreme toxicity, can only be used when conjugated to an antibody for targeted delivery. MMAE has been used in several ADC's, some of which are approved or in late-stage clinical development, and consequently provided an ideal therapeutic payload to establish if Patrys' deoxymab antibodies could be used as targeting agents for ADCs.

MMAE conjugated to PAT-DX3 (PAT-DX3-MMAE) was administered to mice (6 mice per group) implanted with xenografts of the human breast cancer cell line MCF7 and significantly inhibited tumour growth by 95% at day 31 ($p < 0.01$). On day 21 of the study, when the last of the four doses of PAT-DX3-MMAE was administered (indicated by arrows), tumour growth inhibition was 99.7% ($p < 0.01$).

MCF-7 Breast Cancer Model



Most ADCs are based on antibodies against cancer-specific antigens found on surface of some cancer cells. However, cancer is a heterogeneous disease, and the presence of these cancer-specific antigens

varies from cancer to cancer, tumour to tumour, and can change over time. This limits the use of ADCs to patients who are identified as having a cancer with the cancer-specific antigen that is used for targeting with a particular ADC.

Unlike the antibodies used in other ADCs, Patrys' deoxymabs do not target a specific cancer antigen. Instead, they are attracted to, and bind to the DNA released from tumours as cancer cells die. In previous animal studies, Patrys has shown that deoxymabs can selectively localize to both primary and secondary cancers.

This latest preclinical study was conducted to determine if this activity would allow Patrys' deoxymabs to be used as a targeting agent for ADCs directed against solid tumours. By using a well-established and validated therapeutic ADC payload, the anticancer drug MMAE, Patrys has shown deoxymabs can be used to target delivery to tumours in animals. This approach could form the basis of new ADCs that may have clinical utility for a broader range of cancer applications but additional studies will need to be performed to better understand the potential for on and off target toxicity using this approach. Furthermore, as deoxymabs are able to transit the blood-brain barrier, it also opens up the possibility of developing ADCs that could be used to treat primary and secondary cancers in the brain.

To date, ten ADCs have been approved by the U.S. FDA and over 80 different ADCs are currently being evaluated in approximately 150 active clinical trials[1]. Furthermore, there is significant commercial interest in ADCs with two of the top four largest oncology licensing deals for 2020[2] being for ADC assets: AstraZeneca licensed a Phase 1 ADC from Daiichi Sanko for US$6.0 billion in total deal value, and Merck licensed a Phase 2 ADC from Seagen for US$3.2 billion in total deal value.

Patrys Chief Executive Officer and Managing Director, Dr. James Campbell said: "We are very excited by the potential of using our deoxymabs as the basis for new ADCs. This work has shown that deoxymabs can be used to target cancers and, by using a potent and validated ADC payload, deliver a drug. As with the therapeutic applications we are working on, the ability of our deoxymab antibodies to target multiple types of cancer, enter the cell and cell nucleus, and transit the blood brain barrier provides some really novel ways for using them as targeting agents for ADCs. This study has clearly demonstrated the proof-of-concept and is expected to open up a range of potential development or partnering opportunities for the Company."

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This announcement is authorised for release by the Board of Directors of Patrys Limited.

[1] Targeting cancer with antibody-drug conjugates: Promises and challenges, A.Q. Dean et al (2021) MABS 13:e1951427 (23 pages)
[2] Oncology dealmaking in 2020, Nature biopharmdeal March 2021:B3-B5

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About Patrys Limited

Based in Melbourne, Australia, Patrys (ASX:PAB) is focused on the development of its deoxymab platform of cell-penetrating antibodies as therapies for a range of different cancers. More information can be found at www.patrys.com.

About Patrys' deoxymab platform:

Patrys' deoxymab platform is based on the deoxymab antibody that was first identified as an autoantibody in a mouse model of the human disease systemic lupus erythematosus (SLE). While most antibodies bind to cell surface markers, deoxymab penetrates into the cell nuclei and binds directly to DNA where it inhibits DNA repair processes. Cancer cells often have high levels of mutations and underlying deficiencies in the DNA repair mechanisms. For these reasons, the additional inhibition of the DNA repair processes by deoxymab can kill cancer cells, but appears to have little impact on normal cells. As a single agent, deoxymab has been shown to significantly enhance the efficacy of both chemo- and radiotherapies. Further, deoxymabs can be conjugated to nanoparticles to target delivery of chemotherapeutics and imaging agents to tumours.

Patrys has developed two humanised forms of deoxymab, both which have improved activity over the original deoxymab antibody. PAT-DX1 is a dimer (two joined subunits) of the short chain from the binding domain of deoxymab, while PAT-DX3 is a full-sized IgG antibody. In a range of pre-clinical studies, PAT-DX1 has shown significant ability to kill cancer cells in cell models, human tumour explants, xenograft, and orthotopic models. PAT-DX1 has been shown to cross the blood brain barrier, reduce tumour size, and increase survival in multiple animal models of brain cancer, other cancers, and cancer metastases. PAT-DX1 is tumour-agnostic, meaning that it can target many different tumour types in the body, regardless of specific tumour antigens. Patrys believes that PAT-DX1 may have application across a wide range of cancers including gliomas, melanomas, prostate, breast, pancreatic, and ovarian cancers.

Patrys has completed proof of concept studies showing that it is possible to conjugate small molecule payloads to PAT-DX3, and is advancing antibody drug conjugate (ADC) efforts using deoxymabs. In addition, deoxymabs such as PAT-DX1 and PAT-DX3 can be used to target nanoparticles carrying a

payload of anti-cancer drugs specifically to tumours. This allows specific delivery of cancer drugs to multiple types of cancer while having minimal impact on normal, healthy cells.

Patrys' rights to deoxymab are part of a worldwide license to develop and commercialise a portfolio of novel anti-DNA antibodies and antibody fragments, variants and conjugates discovered at Yale University as anti-cancer and diagnostic agents. Six patents covering the unconjugated form of deoxymab (and derivatives thereof) have already been granted (Europe, Japan, China, and 3 in the USA), and one patent covering nanoparticle conjugation has been granted (Australia).