



ASX & Media Release

Australian patent granted for targeted cancer drugs

- A patent covering the use of Patrys' novel Deoxymab platform for the targeted delivery of anticancer drugs using nanoparticles has been granted in Australia
- This first patent covers the use of Deoxymabs (both PAT-DX1 and PAT-DX3) conjugated to nanoparticles (NPs) for both the diagnosis and treatment of multiple types of cancer
- Patents covering other applications for Deoxymab/PAT-DX1 have already been granted in key markets such as the US, Europe, China and Japan

Melbourne, Australia; 6 October 2020: Patrys Limited (ASX: PAB, "Patrys" or the "Company"), a therapeutic antibody development company, is pleased to announce the Australian patent (patent number: 2017286733) titled "Antibody-mediated Autocatalytic, Targeted Delivery of Nanocarrier to Tumors" has been granted.

This patent covers Patrys' novel Deoxymab 3E10 nanoparticle technology (for example PAT-DX1-NP) and includes specific claims covering the use of several different types of nanoparticle carriers conjugated to Deoxymabs for both the diagnosis and treatment of multiple types of cancers.

Patrys Chief Executive Officer and Managing Director, Dr. James Campbell said: "Our PAT-DX1 antibody is unique in that it binds to the DNA that is released from many solid cancers which results from the high turnover of cells in solid tumours. This means it can be used as a targeting agent for a range of cancers, regardless of their type. We have combined this broad-spectrum, tumour-targeting approach with nanoparticles that are able to carry a payload anti-cancer drugs that are toxic to the cancer. This combination allows us to specifically deliver cancer drugs to multiple types of cancer while having minimal impact on normal, healthy cells in the body. Unusually for an antibody, PAT-DX1 is also able to cross the blood brain barrier (BBB), opening up the potential to use it in patients with glioblastoma (primary brain cancer) or metastases that have spread to the brain from other cancers such as breast cancer. Patrys believes that the tumour-agnostic nature of the PAT-DX1-NP technology positions it well for a range of therapeutic applications in difficult-to-treat cancers, and is actively exploring several of these."

This patent expands Patrys' intellectual property portfolio. Five patents covering the unconjugated form of PAT-DX1 have already been granted; one in each of Europe, Japan, China, and two in the US. This is the first patent to be granted that covers the use of PAT-DX1 conjugated to a diverse range of nanocarriers which will allow the targeted delivery of anticancer drugs and imaging agents to multiple types of cancer. Patrys has granted or pending patents in major jurisdictions where future regulatory approvals and product sales are targeted, and currently has more than 19 patent applications pending across 10 different patent families.

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



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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 3E10 platform:

Patrys' Deoxymab platform is based on the Deoxymab 3E10 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 3E10 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 3E10 can kill cancer cells, but appears to have little impact on normal cells. As a single agent, Deoxymab 3E10 has been shown to significantly enhance the efficacy of both chemo- and radiotherapies. Further, Deoxymab 3E10 can be conjugated to nanoparticles to target delivery of chemotherapeutics and imaging agents to tumours.

Patrys has developed two humanised forms of Deoxymab 3E10, both which have improved activity over the original Deoxymab 3E10 antibody. PAT-DX1 is a dimer (two joined subunits) of the short chain from the binding domain of Deoxymab 3E10, 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.

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 3E10 are part of a worldwide license to develop and commercialize a portfolio of novel anti-DNA antibodies and antibody fragments, variants and conjugates discovered at Yale University as anti-cancer and diagnostic agents. Five patents covering the unconjugated form of Deoxymab 3E10 (and derivatives



thereof) have already been granted (Europe, Japan, China, and 2 in the USA), and one patent covering nanoparticle conjugation has been granted (Australia).