ASX & Media Release

PAT-DX3 Crosses Blood Brain Barrier in Healthy Animals

Melbourne, Australia; 17 October 2022: Patrys Limited (ASX: PAB, "Patrys" or the "Company"), a therapeutic antibody development company, is pleased to announce new preclinical data for its full-sized IgG antibody, PAT-DX3. Results from a new study support the potential to use deoxymabs to deliver small molecule therapeutics and gene editing technologies across the blood-brain barrier to treat various neurological targets and conditions.

This study was conducted by a leading global contract research organisation which radioactively labelled both PAT-DX3 and a control antibody to monitor their relative uptake into various tissues over the course of four days. The study's goal was to establish the distribution of PAT-DX3 in a range of different tissues to assist in the selection of future targets and payloads for future potential antibody drug conjugate (ADC) development programs.

The study found that the uptake into the brain (per cubic centimetre) of PAT-DX3 was 3–4 fold higher than that of a control antibody soon after injection, and this persisted for the duration of the study period. This compares favourably to antibodies that have been specifically engineered for enhanced blood-brain barrier crossing that have reported brain uptake values 2–3 fold higher than control antibodies[1]. The area under the curve (AUC) of PAT-DX3, a measurement of overall drug exposure, was approximately seven times greater for PAT-DX3 than it was for the control antibody in this study, with significant concentrations of antibody still in the brain after four days.

The ability of PAT-DX3 to cross the blood-brain barrier is consistent with current data which indicates that Patrys' deoxymabs enter cells using the ENT2 transporter protein; a protein which is highly expressed in the neural vasculature. Elevated levels of PAT-DX3 were found in brain tissue but not in a range of other tissues including the lung, the liver and the thyroid adding further support to this proposed mechanism for crossing the blood-brain barrier.

Patrys Chief Executive Officer and Managing Director, Dr. James Campbell said: "This is an important result that opens up a range of potential applications for Patrys and its development partners. PAT-DX3 appears to out-perform antibodies specifically developed by other companies for the delivery of payloads to brain tissue. Unlike deoxymabs, none of these other antibodies are able to deliver their payloads into the cell and the cell nucleus. These properties open up a range of applications for using deoxymabs to deliver small molecule therapeutics and gene editing technologies directed to various neurological targets and conditions. As we advance PAT-DX1 towards the first clinical trial in cancer patients in H2 CY2023, it is very exciting for Patrys to be able to identify additional applications for PAT-DX3 that may open up new development or partnering opportunities for the Company."

[1] Kouhi, A. et al. Brain Disposition of Antibody-Based Therapeutics: Dogma, Approaches and Perspectives. Int. J. Mol. Sci. 2021, 22, 6442. https://doi.org/10.3390/ijms22126442

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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 commercialise a portfolio of novel anti-DNA antibodies and antibody fragments, variants and conjugates discovered at Yale University as anti-cancer and diagnostic agents. Overall, eight patents in the portfolio have been granted with six patents covering the unconjugated form of deoxymab 3E10 (and derivatives thereof) have already been granted (Europe, Japan, China, and 3 in the USA), and two patents covering nanoparticle conjugation (Australia and India).