



ASX & Media Release

## Full size deoxymab PAT-DX3 able to cross the blood brain barrier

**Melbourne, Australia; 12 July 2021:** Patrys Limited (ASX: PAB, "Patrys" or the "Company"), a therapeutic antibody development company, is pleased to announce new data from non-clinical studies have confirmed its full-sized IgG deoxymab antibody, PAT-DX3, is able to cross the blood-brain barrier (BBB) in an animal model of primary brain cancer (glioblastoma multiforme, GBM).

Previous studies conducted by Patrys and its collaborators have shown that PAT-DX1, a deoxymab antibody fragment, is able to cross the BBB in animal models of both primary and secondary brain cancer where it reduces tumour volume and increases survival. This is the first time it has been shown that the full size deoxymab, PAT-DX3, is also able to cross the BBB. Prior to this data, it had not been established whether the larger size of PAT-DX3 would limit its ability to cross the BBB.

Patrys intends to follow up this discovery with studies to compare the effects of both PAT-DX3 and PAT-DX1 on tumour reduction and survival in a range of primary and secondary brain cancer models.

In addition to its potential as a therapeutic agent in its own right, PAT-DX3 is also currently being tested as a targeting antibody for antibody drug conjugates (ADCs) to allow the delivery of various therapeutic payloads. The fact that PAT-DX3 can transit the BBB will be of particular relevance if it can successfully be conjugated to small molecule drugs.

**Patrys Chief Executive Officer and Managing Director, Dr. James Campbell said:** "We are very excited by this new discovery that opens up a range of development and partnering opportunities for Patrys around PAT-DX3. As PAT-DX3 shares a common mechanism of action with PAT-DX1, it is expected that it will also localise to both primary and secondary tumours in the brain and selectively kill cancer cells by blocking their DNA Damage Repair (DDR) systems. While Patrys remains focused on preparing for its first-in-human study of PAT-DX1, it is clear that PAT-DX3 is a valuable addition to the Company's deoxymab antibody platform.

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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](http://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.

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.

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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).

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