ASX & Media Release

PAT-DX1 Conjugated to Nanoparticles, Selectively Targets Tumors

Melbourne, Australia; September 18, 2017: Patrys Limited **(ASX: PAB)**, a therapeutic antibody development company, is pleased to announce the first pre-clinical data for its drug candidate PAT-DX1-NP. This candidate links PAT-DX1, Patrys' humanized version of the 3E10 anti-DNA antibody, to nanoparticles that can be loaded with chemotherapeutic (or other) drugs.

By linking PAT-DX1 to nanoparticles, the conjugated molecule is preferentially attracted to tumor tissues and, as a result, delivers its payload specifically to tumors. Previous studies with murine 3E10 have shown that similar conjugations significantly increased the efficacy of drug therapy.

When compared to unconjugated nanoparticles, experiments in mice with orthotopic glioblastoma brain tumors showed significantly higher localization of PAT-DX1-NP at the tumor sites. Further, PAT-DX1-NP localization was not elevated over background in other organs, including the heart, lungs, liver, spleen and kidneys, confirming the tumor-specificity of the conjugate.

To enable visual quantification and localization of PAT-DX1-NP, the nanoparticles used in the study were loaded with staining reagent; however, future studies will use nanoparticles loaded with chemotherapeutic agents. The study was performed in the laboratories of Dr James Hansen and Dr Jiangbing Zhou at Yale University.

"It is clear that nanoparticles conjugated to Patrys' humanized form of the 3E10 antibody are performing as well as, if not better than, those conjugated to murine 3E10," said Dr James Campbell, Chief Executive Officer and Managing Director of Patrys. "Following on the recently announced pre-clinical activity of unconjugated PAT-DX1, this new observation confirms the utility and versatility of the PAT-DX1 asset."

"Patrys has established a novel position in the field of DNA damage response therapeutics and is well positioned to consolidate this in the coming year as it progresses development of its first-in-class assets."

About Deoxymab 3E10 and PAT-DX1

Patrys has a worldwide license to develop and commercialize as anti-cancer agents a portfolio of pre-clinical novel anti-DNA antibodies and antibody fragments/variants and antibody-nanoparticle conjugates discovered at Yale University.

Deoxymab 3E10 is an autoantibody originally identified in models of lupus. Unlike normal antibodies that bind to foreign cells (eg pathogens) or aberrant cells (eg cancer cells) and trigger an immune response, autoantibodies bind to normal cells. Of particular interest with Deoxymab 3E10 is that whilst most antibodies bind to markers on the surface of cells, Deoxymab 3E10 penetrates cells' nuclei and binds directly to DNA. Having bound to the DNA, Deoxymab 3E10 inhibits DNA repair and damages DNA. Normal cells repair DNA damage utilizing intact DNA repair processes, however Deoxymab 3E10 can kill cells that have mutations or deficiencies in DNA repair mechanisms as found in various cancer cells. As well as showing single agent therapeutic potential Deoxymab 3E10 has been shown to significantly enhance the efficacy of both chemo- and radiotherapies. Further, 3E10 can be conjugated to nanoparticles to target delivery of chemotherapeutics to tumors.

Patrys has selected a high-performing variant of Deoxymab 3E10, PAT-DX1 as the lead candidate from the program and is progressing PAT-DX1, and its nanoparticle-conjugated form PAT-DX1-NP into pre-clinical cancer models. Patrys believes that PAT-DX1 may have application across a wide range of malignancies such as gliomas, melanomas, prostate, breast, pancreatic and ovarian cancers.

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About Patrys Limited:
Based in Melbourne, Australia, Patrys (ASX: PAB) is focused on the development of antibodies as therapies for a range of different cancers. Patrys has a pipeline of anti-cancer antibodies for both internal development and as partnering opportunities. More information can be found at www.patrys.com.