**ASX & Media Release**

# PAT-DX1-NP Localizes to Lymph Node Metastases

**Melbourne, Australia; January 29, 2018:** Patrys Limited **(ASX: PAB)**, a therapeutic antibody development company, is pleased to announce further 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 (NPs) that can be loaded with chemotherapeutic (or other) drugs.

As part of the tumor localization study recently completed at Yale University, Drs James Hansen and Jiangbing Zhou made the discovery that PAT-DX1-NPs appeared not only to localise to primary tumors, but also to axillary lymph node metastases.

Axillary lymph nodes are the most common sites to which breast cancer initially metastasizes. In the Yale study, mice with breast cancer tumors were treated with free NPs or PAT-DX1-NPs, with both sets of nanocarriers loaded with a staining reagent to allow them to be directly tracked in the mice by an imaging system. The PAT-DX1-NPs showed improved targeting of the primary tumors, which is consistent with previous studies with murine 3E10 and PAT-DX1 in breast and glioblastoma tumor models.

Remarkably, the PAT-DX1-NPs also appeared to target nearby axillary lymph node metastases. As PAT-DX1 targets the cloud of extracellular DNA released by dying cancer cells it is not surprising that PAT-DX1-NPs have a potential to target not only primary tumors but cancerous cells elsewhere in the body including lymph nodes and distant metastases, but this is the first direct evidence of this effect in an animal study.

"If PAT-DX1-NP localises to metastases as well as primary tumors the implications are significant" said Dr James Campbell, Chief Executive Officer and Managing Director of Patrys. "That would mean that an eventual therapeutic could have broad utility, treating both primary and secondary tumors – potentially before the latter had even been identified. There is now support for diagnostic imaging applications for the PAT-DX1 technology, which we have foreseen in our patent strategy and intellectual property filings."

"This discovery is consistent with Patrys' understanding of the behaviour of PAT-DX1, and offers further development potential for this asset. Patrys is focussed on progressing the broader PAT-DX1 program towards the clinic, and any diagnostic/imaging programs will only be progressed through alliances in the coming year."

*About Deoxymab 3E10, PAT-DX1 and PAT-DX1-NP*

Deoxymab 3E10 is a DNA damage-repair (DDR) antibody that was first identified in lupus as an autoantibody that bound to normal cells. Of particular interest is that whilst 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 and kills cells that have mutations or deficiencies in DNA repair mechanisms as found in various cancer cells. Deoxymab 3E10 has single agent therapeutic potential and 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 tumors.

Patrys has developed a humanized form of Deoxymab 3E10, PAT-DX1 with improved activity over the original version of 3E10, and is progressing this, and a nanoparticle-conjugated form (PAT-DX1-NP) towards the clinic. In a range of pre-clinical cancer models PAT-DX1 has shown significant ability to kill cancer cells in cell models, human tumor explants and xenograft models. PAT-DX1 has also been shown to work synergistically with the approved PARP inhibitor, olaparib. Patrys believes that PAT-DX1 may have application across a wide range of malignancies such as gliomas, melanomas, prostate, breast, pancreatic and ovarian cancers.

Patrys' rights to Deoxymab 3E10 are part of a worldwide license to develop and commercialize as anti-cancer and diagnostic agents a portfolio of novel anti-DNA antibodies and antibody fragments, variants and conjugates discovered at Yale University.

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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.