ASX & Media Release

PAT-DX1 is synergistic with PARP inhibitor

Melbourne, Australia; December 11, 2017: Patrys Limited **(ASX: PAB)**, a therapeutic antibody development company, is pleased to announce that pre-clinical experiments with Patrys' therapeutic candidate PAT-DX1 confirm that it acts synergistically with olaparib, the first approved PARP (poly (ADP-ribose) polymerase) inhibitor.

In a study comparing PAT-DX1 with olaparib, the Hansen lab at Yale University found that both molecules killed a range of different cancer cells as single agents, and when used simultaneously their combined action was synergistic rather than additive, supporting the understanding that they act through different but complementary pathways.

Combinations of PAT-DX1 and olaparib were tested on both brain and colon cancer cells with defective DNA repair pathways. In both cancers PAT-DX1 and olaparib by themselves were toxic to the cells in a dose responsive manner, and when used in combination they synergized to significantly increase cancer cell death compared to use of either agent singly. Furthermore, cells with intact DNA repair were not killed by PAT-DX1, olaparib, or the combination. Taken together, these findings indicate the potential for combinations of PAT-DX1 and PARP inhibitors to have an increased impact on DNA repair-deficient tumors while still sparing normal tissues.

Olaparib (trade name LYNPARZA®) is a targeted therapy for cancer, approved by both the FDA and EMA. Olaparib interferes with DNA repair and acts against cancers with defects in homologous recombination due to BRCA1 or BRCA2 mutations, including some ovarian, breast, and prostate cancers. Olaparib was the first PARP inhibitor approved for use in humans, and numerous other PARP inhibitors are in clinical trials. PARP inhibitors are particularly interesting in the clinical setting because of their toxicity against cancer cells with impaired DNA repair mechanisms.

PAT-DX1 is Patrys' humanized version of Deoxymab 3E10, is an antibody that interrupts cells' DNA damage repair (DDR) mechanisms, specifically inhibiting multiple DNA repair pathways, including base excision repair and homologous recombination. PAT-DX1 has previously shown positive results in a range of different pre-clinical models of cancer including glioblastoma, colon cancer and triple negative breast cancer.

"This exciting discovery that PAT-DX1 works synergistically with a PARP inhibitor confirms the leading position that Patrys is establishing in the field of DNA damage response therapeutics," said Dr James Campbell, Chief Executive Officer and Managing Director of Patrys. "Patrys will expand on this study with various animal models, and with PAT-DX1-conjugated nanoparticles dosed with olaparib. Positive results from these studies will significantly strengthen the potential and attractiveness of the Deoxymab platform," Dr. Campbell added.

LYNPARZA is a registered trademark of the AstraZeneca group of companies.

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 developed a humanized form of Deoxymab 3E10, PAT-DX1 which is significantly more effective than the original version of 3E10, and is progressing this, and a nanoparticle-conjugated form of 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.

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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.