ASX & Media Release

Positive data from PAT-DX1-NP pre-clinical study

Melbourne, Australia; 2 March 2020: Patrys Limited (ASX: PAB, "Patrys'" or the Company), a therapeutic antibody development company, is pleased to announce new pre-clinical animal data for its development asset PAT-DX1-NP. Study data demonstrates that PAT-DX1-NP, like its unconjugated form (PAT-DX1), is able to cross the blood brain barrier (BBB) and successfully target triple-negative breast cancer (TNBC) brain metastases.

Key highlights

- **PAT-DX1-NP improved delivery of nanoparticles across the BBB by 260%, in a mouse model of TNBC brain metastases**
- **Potential for therapeutic targeting underpinned by PAT-DX1-NP specifically targeting regions of the brain where metastatic tissue was localised**
- **Significant and growing industry interest in technologies that cross the BBB and deliver payloads to the brain to treat a range of pathologies**
- **Data demonstrating PAT-DX1-NP's platform technology supports ongoing strategic and collaboration discussions**

Patrys Chief Executive Officer and Managing Director, Dr. James Campbell said: *"Following ongoing discussions at several partnering events, Patrys has expanded efforts to leverage the platform technology applications of the Deoxymab technology. The confirmation that PAT-DX1-NP delivers payloads across the BBB holds significant promise for numerous existing small molecule therapeutics that are currently not able to enter the brain to treat primary cancers and metastases.*

"With our ongoing manufacturing and development program, Patrys' focus remains on the progression of PAT-DX1 to the clinic as a novel therapeutic for the treatment of a range of cancers. Exciting too, is an opportunity to now offer potential partners a deeper understanding of the broader applications of the Deoxymab platform technology – which we hope, in time, will unlock the body's full defence systems in the fight against cancer."

Dr. James Hansen and Dr. Jiangbing Zhou of the Yale School of Medicine found that PAT-DX1-NP administered by tail vein injection improved delivery of nanoparticles across the BBB by 260% in a mouse model of TNBC brain metastases. Further, the data clearly illustrated that PAT-DX1-NPs were specifically targeting regions of the brain where more metastatic tissue was localised, reinforcing the potential use of this technology for therapeutic targeting.

Brain metastases were generated by injection of luciferase-labelled, brain-seeking TNBC cells directly into circulation via intracardiac injection. The presence of brain metastases was confirmed by *in vivo* imaging, and mice were then randomised to treatment with tail vein injection of either nanoparticles alone or PAT-DX1-NP. Localisation of nanoparticles or PAT-DX1-NP to brain metastases was then quantified 24 hours later.

The vast majority of small molecule therapeutics are unable to cross the BBB and hence unable to be used as therapeutic interventions for disorders of the central nervous system. As such, there is significant growing interest in using conjugated nanoparticles to cross the BBB and deliver various payloads to the brain to treat a range of pathologies.

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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 – lead candidates 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 humanised 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, xenograft and orthotopic models. Treatment with PAT-DX1 has been shown to significantly improve survival in orthotopic models of both triple negative breast cancer brain metastases and glioblastoma. PAT-DX1 has also been shown to enhance the therapeutic effect of low dose radiation and 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 commercialise as anti-cancer and diagnostic agents a portfolio of novel anti-DNA antibodies and antibody fragments, variants and conjugates discovered at Yale University.