



ASX & Media Release

PAT-DX1 Crosses Blood Brain Barrier to Reduce Brain Tumour Size

Melbourne, Australia; February 28, 2018: Patrys Limited (**ASX: PAB**), a therapeutic antibody development company, is pleased to announce further pre-clinical data for its drug candidate PAT-DX1, Patrys' humanized version of the 3E10 anti-DNA antibody.

Drs James Hansen and Jiangbing Zhou of Yale University have shown that PAT-DX1 administered by tail vein injection crossed the blood brain barrier to significantly reduce tumour size in an orthotopic animal model of glioblastoma using human tumor explants. Evaluation of brain sections showed that the glioblastoma tumours in mice treated with PAT-DX1 were more than 40% smaller than the comparable tumours in control mice.

The blood brain barrier is a protective layer of endothelial cells that only allows certain molecules to transit from the blood into the cerebrospinal fluid that surrounds the brain. The blood brain barrier is a significant challenge to the delivery of therapeutics, as only a very limited number of molecular classes can cross into the brain. To date, very few proteins or antibodies have been shown to transit across the barrier from the blood to the brain.

Glioblastoma is a particularly aggressive, highly malignant form of brain cancer characterized by very fast cellular reproduction. Glioblastomas constitute approximately 15% of all primary brain cancers and are a significant unmet therapeutic need, with a median survival period of 18 months, depending on disease severity.

“We are delighted with this significant discovery” said Dr James Campbell, Chief Executive Officer and Managing Director of Patrys. “The blood brain barrier is one of the major limitations in the development of neuro-therapeutics, and the observation that PAT-DX1 can cross the barrier and reduce glioblastoma tumour size is very positive. With our collaborators at Yale we are currently undertaking a parallel study to evaluate the comparative survival of mice with glioblastoma that have been treated with PAT-DX1 versus untreated mice, and will report on this in the coming month.”



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.