



ASX & Media Release

Patrys and Imagion Biosystems to collaborate on brain tumor imaging

Melbourne, Australia; 3 May 2021: Patrys Limited (ASX: PAB, "Patrys"), a therapeutic antibody development company, and Imagion Biosystems Limited (ASX: IBX), a company dedicated to improving healthcare through the earlier detection of cancer, are pleased to announce a collaborative research program using their combined technologies to improve brain tumor imaging and diagnosis.

Patrys' novel deoxymabs are attracted to the DNA fragments released from dying tumor cells and are able to penetrate and kill tumor cells. The collaboration aims to pair the targeting specificity of the deoxymabs with the imaging capabilities of Imagion's MagSense® technology to provide a highly effective imaging agent with high specificity for hard-to-diagnose cancers such as brain cancer.

"The combination of our two company's technologies offers a range of exciting opportunities", **said Dr. James Campbell, Patrys' CEO and Managing Director.** "The potential for our deoxymab antibodies to home in on a range of different cancer types due to their affinity for DNA is one of the properties that makes them so unique and opens up a range of different clinical applications for their use. We are very excited to be further leveraging the cancer-targeting ability of deoxymabs by partnering with Imagion and its innovative MagSense® imaging technology to potentially develop new ways to visualise and diagnose cancer. This is the first of multiple potential applications of our deoxymab platform, and while our focus is on advancing our novel cancer therapeutics to the clinic we are actively engaged in business development efforts for the broader platform to leverage the unique attributes of deoxymabs."

Preliminary research efforts by Imagion have demonstrated that the Patrys PAT-DX1 molecule can be conjugated to the MagSense® nanoparticles and provide bio-functionality for targeting certain cancer cell lines. Should this further collaborative work provide positive results, Imagion will have an exclusive option to a future license agreement, should it elect to commercialize the imaging agent. Under the current collaboration both parties are bearing their own costs.

"We are very interested in the tumor targeting capabilities of the Patrys deoxymabs and believe there is potential for Patrys' deoxymabs to be paired with our MagSense® nanoparticles for many types of solid tumors," **said Bob Proulx, Executive Chairman of Imagion Biosystems.** "Initially, we are very keen to investigate the potential for brain tumor imaging since there is such a high unmet need for differentiating cancerous tumors in the brain, like glioblastoma, as well as metastatic disease that has spread to the brain from other primary tumors."

Brain tumors are neoplasms arising from cells of the central nervous system (CNS) including primary tumors originating in the brain and secondary tumors arising from metastases to the brain. Secondary brain tumors are significantly more frequent, affecting one in four cancer patients. Of the more than



300,000 individuals afflicted with malignant brain cancer each year globally, less than 25% survive beyond five years. Conventional MRI has been the standard modality to identify and localize tumors in the brain for many years, but a biopsy is the only definitive way they can be diagnosed and two-thirds of primary brain tumors are benign.

A non-invasive imaging method able to specifically identify malignant brain tumors and differentiate from benign disease would address a significant unmet medical need.

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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 Imagion Biosystems

Imagion Biosystems is developing a new non-radioactive and safe diagnostic imaging technology. Combining biotechnology and nanotechnology the Company aims to detect cancer and other diseases earlier and with higher specificity than is currently possible. Imagion Biosystems listed on the Australian Securities Exchange (ASX) in June 2017. For further information please visit www.imagionbiosystems.com.

About Patrys' deoxymab platform:

Patrys' deoxymab platform is based on the deoxymab antibody that was first identified as an autoantibody in a mouse model of the human disease systemic lupus erythematosus (SLE). While most antibodies bind to cell surface markers, deoxymab penetrates into the cell nuclei and binds directly to DNA where it inhibits DNA repair processes. Cancer cells often have high levels of mutations and underlying deficiencies in the DNA repair mechanisms. For these reasons, the additional inhibition of



the DNA repair processes by deoxymab can kill cancer cells, but appears to have little impact on normal cells. As a single agent, deoxymab has been shown to significantly enhance the efficacy of both chemo- and radiotherapies. Further, deoxymabs can be conjugated to nanoparticles to target delivery of chemotherapeutics and imaging agents to tumours.

Patrys has developed two humanised forms of deoxymab, both which have improved activity over the original deoxymab antibody. PAT-DX1 is a dimer (two joined subunits) of the short chain from the binding domain of deoxymab, while PAT-DX3 is a full-sized IgG antibody. In a range of pre-clinical studies, PAT-DX1 has shown significant ability to kill cancer cells in cell models, human tumour explants, xenograft, and orthotopic models. PAT-DX1 has been shown to cross the blood brain barrier, reduce tumour size, and increase survival in multiple animal models of brain cancer, other cancers, and cancer metastases. PAT-DX1 is tumour-agnostic, meaning that it can target many different tumour types in the body, regardless of specific tumour antigens. Patrys believes that PAT-DX1 may have application across a wide range of cancers including gliomas, melanomas, prostate, breast, pancreatic, and ovarian cancers.

Deoxymabs, such as PAT-DX1 and PAT-DX3, can be used to target nanoparticles carrying a payload of anti-cancer drugs specifically to tumours. This allows specific delivery of cancer drugs to multiple types of cancer while having minimal impact on normal, healthy cells.

Patrys' rights to deoxymab are part of a worldwide license to develop and commercialise a portfolio of novel anti-DNA antibodies and antibody fragments, variants and conjugates discovered at Yale University as anti-cancer and diagnostic agents. Six patents covering the unconjugated form of deoxymab (and derivatives thereof) have already been granted (Europe, Japan, China, and 3 in the USA), and one patent covering nanoparticle conjugation has been granted (Australia).