



ASX & Media Release

Further Data Validates PAT-SM6 as a Promising Anti-cancer Treatment

- **Peer reviewed publication resulting from Patrys' Australian Research Council grant**
- **Data sends new light on how PAT-SM6 binds to its target GRP78 on cancer cells**
- **Additional data bolsters preclinical data package making PAT-SM6 more attractive to potential licensing partners**

Melbourne, Australia; 21st September, 2012: Patrys Limited (ASX:PAB), a clinical stage biopharmaceutical company is pleased to announce the publication of a new scientific article in the current edition of The Public Library of Science ONE (PLOS ONE) journal regarding its lead candidate PAT-SM6.

The data further supports Patrys' continued development of PAT-SM6, a monoclonal IgM antibody that induces killing of tumour cells through its multivalent nature and its ability to form multiple bond interactions with multiple receptors clustered on the surface of tumour cells. The combined strength of these multiple interactions is called "avidity". PAT-SM6 demonstrates high avidity of binding that is believed to be responsible for more effective cell death.

The interaction of the PAT-SM6 antibody and its primary target GRP78, found on the surface of many cancer cells, results in induction of cell death in various tumours. The PLOS paper presents evidence of a very strong and specific interaction between PAT-SM6 and immobilised, clustered GRP78 in laboratory experiments designed to mimic the natural clustering of GRP78 on the surface of cancer cells. These observations are consistent with the theory that strength of the interaction between PAT-SM6 and GRP78 depends on the simultaneous binding of multiple sites of the PAT-SM6 IgM pentameric molecule and may be responsible for the severity of tumour cell death.

This work is the result of a collaboration between the University of Melbourne leading experts Associate Professor Geoff Howlett, Dr Terry Mulhern and Dr Danny Hatters from the Bio21 Institute at Parkville and Patrys. A Federal Government Australian Research Council ("ARC") grant was awarded to Patrys in November 2009 to support this collaboration and further evaluate the mechanisms by which PAT-SM6 kills cancer cells.

University of Melbourne, Associate Professor Geoff Howlett, commented, "This is an exciting project that utilised both a novel IgM antibody and disease target in combination with state of the art methods. The study demonstrates the beneficial multivalent nature of the PAT-SM6 antibody interaction with its receptor GRP78."

Patrys CEO Dr. Marie Roskrow, added, "This is another step in the development journey of PAT-SM6 substantiated by compelling science. It is yet another piece of evidence that positively supports our



solid preclinical and clinical data sets, indicating PAT-SM6's safety and potential efficacy. Additional evidence supporting PAT-SM6's profile as an effective anticancer agent is very encouraging as we move forward with our multi-dose study of PAT-SM6 in patients with multiple myeloma."

A summary of the full article is available for download at: <http://dx.plos.org/10.1371/journal.pone.0044927>.

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About Patrys Limited:

Based in Melbourne, Australia, Patrys (ASX: PAB) is focused on the development of natural human antibody therapies for cancer. More information can be found at www.patrys.com.

About PAT-SM6:

The natural human antibody PAT-SM6 has been shown to have potent anti-cancer properties in a large number of laboratory and animal studies. More specifically, Patrys has now screened PAT-SM6 against more than 200 tumours from individual patients with various cancers, and the product binds to over 90% of the tumours screened regardless of cancer type or patient age, gender or disease stage. With respect to multiple myeloma PAT-SM6 has shown particularly strong promise. Patrys has filed patent applications to cover the PAT-SM6 antibody molecule, disease target, and the mechanism of action. Patrys has successfully completed a Phase I clinical trial to evaluate PAT-SM6 as a therapy for melanoma and will be commencing a Phase I/IIa clinical trial in multiple myeloma in the fourth quarter of 2012.

About GRP78:

Patrys clinical candidate PAT-SM6 binds to a form of Glucose-regulated protein 78 (GRP78), which is expressed on the surface of cancer cells but not detected on the surface of healthy cells. Once bound, the PAT-SM6/GRP78 complex is then internalised into cancer cells inducing apoptosis and cell death. The potential of GRP78 as a target for cancer therapy is supported by extensive third party literature that has reported several roles played by GRP78 with respect to promoting tumour proliferation, tumour survival, metastases and resistance to a wide variety of existing anti-cancer therapies. As a result, GRP78 expression has been correlated with an adverse prognosis in melanoma, breast, lung, gastric, hepatocellular and prostate cancer, and drug resistance in breast cancer. Given GRP78's reported roles with respect to several cancers, a molecule such as PAT-SM6 presents a promising anti-cancer treatment to the extent it interferes with the function of GRP78 in cancer.