



ASX & Media Release

## Further Data on the Effectiveness of PAT-SM6 Published

- Publication in peer reviewed journal provides further validation of PAT-SM6 as a treatment for melanoma
- *In vitro* and *in vivo* studies confirm the anti-cancer properties of PAT-SM6 in melanoma

**Melbourne, Australia; 11 June, 2013:** Patrys Limited (ASX: PAB), a clinical stage biotechnology company, today announced that both preclinical and clinical data supporting the anti-cancer properties of PAT-SM6 in melanoma have been published in a peer-reviewed journal *Melanoma Research*. The article is currently available online and will be included in the August 2013 print edition of the journal.

The article provides a summary of the results of preclinical studies conducted in melanoma which confirm that PAT-SM6 induces programmed tumour cell death by interacting with a specific isoform of glucose-regulated protein 78 (GRP78) present on the surface of malignant cells but not normal cells. Additionally, the results show that the interaction of PAT-SM6 with low density lipoprotein (LDL) is responsible for the accumulation of lipids in melanoma cells and even more effective cell death.

The *in vitro* cell data is supported by positive *in vivo* animal data evaluating PAT-SM6 in an aggressive and metastatic mouse model where animals injected with melanoma tumour cells would develop metastases (secondary tumours) in their lungs. Treatment with PAT-SM6 significantly suppressed or eliminated the development of these secondary tumours in all treated mice. Furthermore, PAT-SM6 was safe and well tolerated in animal toxicology studies.

This publication also includes an overview of the Phase I clinical trial in patients with melanoma that Patrys completed in February 2012. This trial met its primary endpoint of safety and showed early evidence supporting the ability of PAT-SM6 to specifically target melanoma tumours and cause cell death.

A summary of the article is available for download at:

[http://journals.lww.com/melanomaresearch/Documents/PAP\\_Early\\_development\\_of\\_PAT\\_SM6\\_for\\_the\\_treatment\\_of\\_melanoma.pdf](http://journals.lww.com/melanomaresearch/Documents/PAP_Early_development_of_PAT_SM6_for_the_treatment_of_melanoma.pdf).

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**About Patrys Limited:**

Based in Melbourne, Australia, Patrys (ASX: PAB) is focused on the development of natural human antibodies as therapies for cancer and other major diseases. Patrys has a deep pipeline of anti-cancer natural human antibodies that enable both internal development and partnering opportunities. More information can be found at [www.patrys.com](http://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 melanoma and 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. In November 2012, Patrys commenced a PAT-SM6 clinical trial in patients with multiple myeloma. Multiple myeloma is a type of bone marrow cancer that affects approximately 1,200 Australians each year with 39% five-year survival rate.

**About GRP78 and LDL:**

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. The second target for PAT-SM6 is oxidised low density lipoprotein (oxLDL) and very low-density lipoprotein (VLDL). More specifically, experiments have shown that PAT-SM6 binds to oxLDL, then binds to GRP78 expressed on the surface of cancer cells, and "imports" the oxLDL into the cancer cell, causing intracellular deposition of lipids. Once bound, the PAT-SM6/LDL/GRP78 complex is then internalised into cancer cells inducing apoptosis and cell death. The anti-cancer activity of PAT-SM6 is enhanced in the presence of oxLDL. 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, metastasis 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.

**About Melanoma:**

Melanoma is one of the most deadly skin cancers. It is becoming more prevalent with approximately 132,000 new cases globally every year and has the fastest growing incidence rate of any form of cancer. Commonly, melanoma can move from a primary site to other, secondary sites in the body and develop "in transit" metastases that remain largely incurable. These "in transit" melanoma relapses indicate the need for better regional and systemic treatments.