



12 March 2009
BioPharmica (ASX: BPH) ASX Announcement

Novel Cancer Therapeutic Discovery

A team of expert cancer cell biology researchers at BioPharmica Limited have used state-of-the-art technology to screen synthetic molecules and natural extracts for new anti-cancer drugs. Using high-content imaging and computational analyses, these drug screening efforts have now yielded a new class of potential anti-cancer drugs. The new anti-cancer drugs potentially inhibit cell proliferation, resulting in pronounced killing of all human cancer cell lines tested to date.

The inhibition of cell proliferation and induction of cancer cell death is due to the anti-mitotic activity of these potential new drugs. Anti-mitotic drugs, such as the blockbuster anti-cancer drug Taxol®, are considered to be among the most clinically important cancer drugs discovered to date¹, generating revenue well in excess of one billion USD/yr^{2,3}. In light of this clinical success, all major pharmaceutical companies have invested heavily in the discovery and development of new and improved anti-mitotic drugs. These intensive drug discovery efforts are starting to yield new clinically relevant anti-cancer therapeutics, such as the recently FDA-approved anti-mitotic drug Ixabepilone (BMS-247550). Recent results with the anti-mitotic lead compound identified by researchers at BioPharmica have indicated that development of this drug has the potential to make a similar pronounced impact on cancer treatments and outcomes.

In keeping with advanced drug discovery efforts of leading pharmaceutical drug companies in North America and Europe, BioPharmica in 2006 established a wholly owned subsidiary Molecular Discovery Systems (MDSystems) located at the Western Australian Institute for Medical Research (WAIMR). MDSystems has a high-content analysis facility with extensive expertise in cancer drug screening and development technologies.

An exceptional opportunity exists for a drug development company to participate in this lead compound development program. Please see the attached for more information.

Also for more information contact:

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Yours sincerely,

David Breeze
Chairman

¹ "Taxol has become one of the most valuable cytotoxic chemotherapeutic agents we have in clinical oncology. It has proven effective in ovarian, breast, lung, and head and neck cancer and it has contributed immensely to the quality of life of cancer patients," (www.medicalnewstoday.com/articles/26471.php)

² "In 2000, BMS reported its annual sales of Taxol® was \$1.592 billion - equal to excess \$4.3 million per day" (www.21cecpharm.com/px)

³ "A taxane is a type of chemotherapy that stops cell division in order to fight tumors. Sales of taxanes were approximately \$2 billion in 2007," ([www.wikinvest.com/stock/Abraxis_BioScience_\(ABII\)](http://www.wikinvest.com/stock/Abraxis_BioScience_(ABII)))

Novel Anti-Mitotic Cancer Therapeutics



BioPharmica Limited
Bridging Biotechnology Borders

BioPharmica manages a strong portfolio of biomedical technologies emerging from research by leading Universities, Medical Institutes and Hospitals across Australia.

BioPharmica is working with the Western Australian for Institute for Medical Research (WAIMR).

WAIMR combines the Royal Perth Hospital, Sir Charles Gairdner Hospital, Fremantle Hospital and the University of Western Australia (UWA) and aims to uncover the genetic and environmental causes of a range of diseases. The ultimate goal is to prevent disease developing and to create improved treatments if these condition do emerge.



Australian Research Network

The Australian Research Network represents BioPharmica Limited.

The Australian Research Network is a technology transfer company based in Los Angeles focused on the commercialization of early stage technologies from Australia.

The Australian Research Network is a wholly owned subsidiary of TM Ventures Pty Ltd, a business development company based in Sydney Australia.

Summary of the Opportunity

An exceptional opportunity exists for a drug development company to co-develop a drug candidate validation program in the field of anti-mitotic cancer therapeutics.

Background

Unregulated cell proliferation and evasion of cell death (apoptosis) are two of the fundamental hallmarks of cancer. While a number of pharmacological agents can target cell proliferation or apoptosis, anti-mitotic agents have proven to be among the most clinically effective anti-cancer drugs. The exceptional tumour inhibitory activity of anti-mitotic drugs is due to their unique ability to link perturbation of cell proliferation (metaphase arrest) with apoptosis (mitotic death and/or catastrophe) (Figure 1).

Data

In light of the clinical success of the anti-mitotic microtubule drug Taxol®, the identification of new and improved anti-mitotic pharmacophores remains one of the primary objectives of current oncology drug discovery. Indeed, in addition to improved microtubule drugs (Ixabepilone), inhibitors of Polo/Aurora kinases (BI-2536/VX-680) and mitotic kinesins (Ispinesib, GSK-923295) have recently emerged as highly promising new anti-cancer therapeutics.

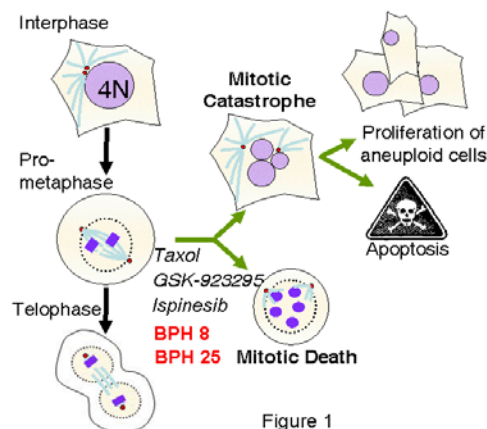


Figure 1

Our Technology

BioPharmica has recently identified new anti-mitotic agents that induce mitotic arrest and apoptosis. While these actives do not affect the microtubule cytoskeleton in interphase cells, they perturb the function of the mitotic spindle (Figure 2), thereby selectively linking cell division with cell death.

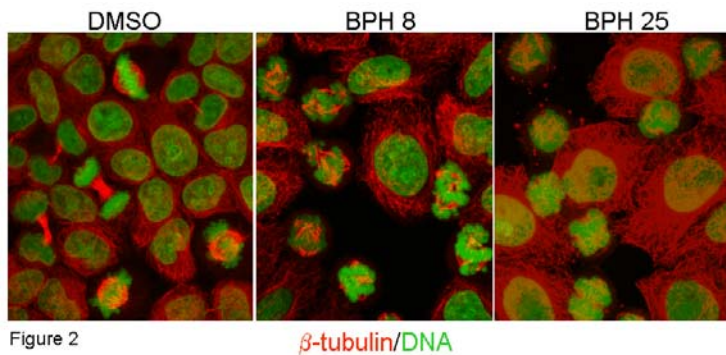


Figure 2

β -tubulin/DNA

In addition to defining the molecular and cellular modes of action of these compounds, BioPharmica is also actively pursuing hit optimization through *in silico* and *in vitro* medicinal chemistry.

Opportunity

The program is available for co-development.

For Further Information

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