



ASX ANNOUNCEMENT

## Starpharma's docetaxel superior to Taxotere<sup>®</sup> across multiple cancer types

**Melbourne, Australia; Thursday 6 December 2012:** Starpharma (ASX:SPL; OTCQX:SPHRY) today announced the results of animal trials which show its dendrimer-enhanced version of docetaxel had significantly superior anti-cancer effects across a range of important cancer types when compared to Taxotere<sup>®</sup> (docetaxel).

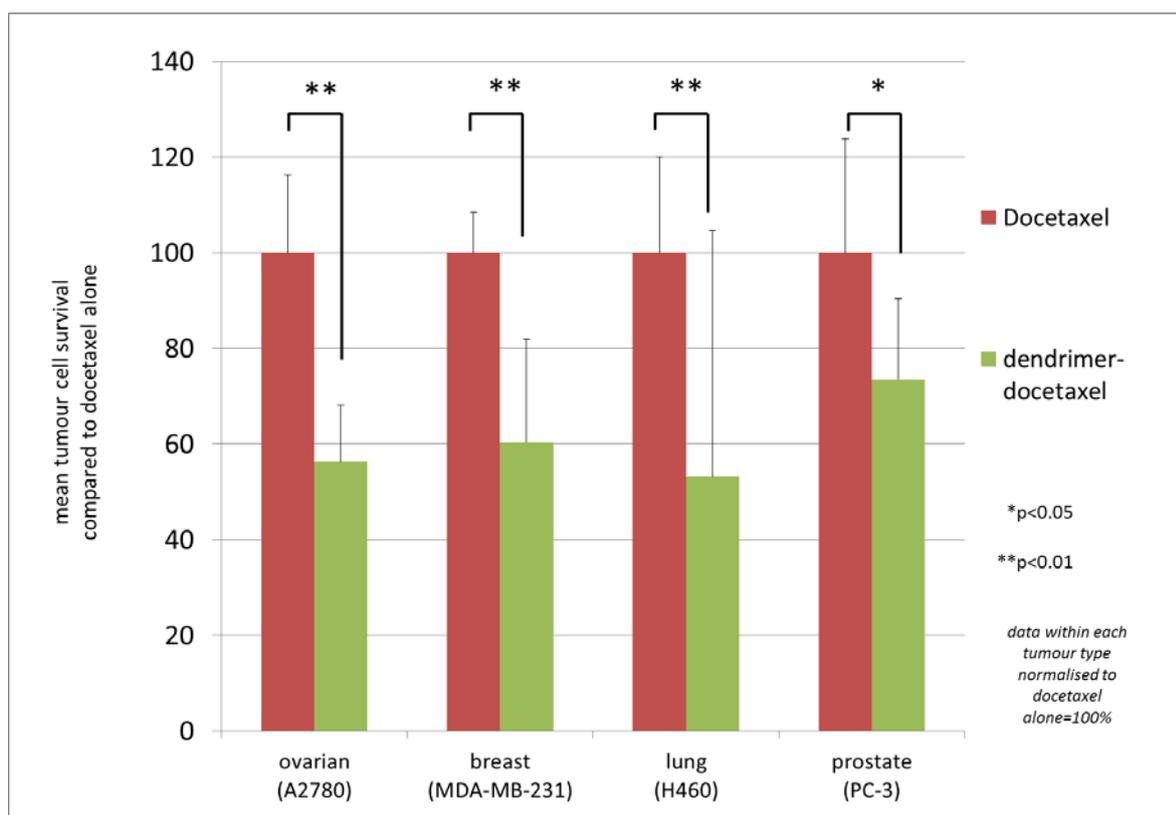
Breast, prostate, lung and ovarian tumour types were tested. In each case the company's dendrimer-docetaxel formulation was seen to significantly outperform the leading drug Taxotere<sup>®</sup>.

These in-vivo results are consistent with and expand upon findings from earlier studies announced on 1 February and 29 October 2012, which had focussed solely on breast cancer, and which also showed superior anti-cancer effects for Starpharma's dendrimer-docetaxel formulation compared to Taxotere<sup>®</sup>. These earlier experiments also demonstrated significant targeting of tumour tissue and extension of half-life with the dendrimer formulation.

Dr Jackie Fairley, CEO Starpharma said: "We are very pleased to see significantly enhanced efficacy of our dendrimer-docetaxel formulation compared to Taxotere<sup>®</sup> alone across such a wide range of clinically important tumour types. If the dendrimer formulation's superiority to Taxotere<sup>®</sup> across these cancers is maintained in the clinic, then it could have very wide application, benefiting many more cancer patients and providing an expanded commercial opportunity for Starpharma."

Results are shown in Figure 1 below. Across all four tumour types tested the number of surviving tumour cells was significantly reduced. The dendrimer-docetaxel formulation resulted in a 26-47% reduction in mean tumour cell survival compared to Taxotere<sup>®</sup> alone.

Docetaxel is a leading chemotherapy drug used to treat a wide range of tumours including breast, lung, ovarian and prostate. The original formulation is commercially registered as Taxotere<sup>®</sup> and marketed by Sanofi Aventis with sales in excess of US\$1 billion in 2011 and more than \$3 billion prior to its patent expiry.



**Figure 1:** Starpharma’s dendrimer-docetaxel formulation showed a significantly superior tumour cell killing effect compared to Taxotere® (docetaxel) alone over several test cancer types. (N=6 for each bar)

These in-vivo studies were conducted by UK-based Institute of Cancer Therapeutics (ICT) using a technique known as a “hollow fibre inhibition assay” (HFIA) a technique which involves implanting tumour cells into a mouse, then administering an anti-cancer drug to test the drug’s effectiveness. In the present experiment the tumour cells were exposed to the drugs for five days in the mice. In order to reflect usual clinical practice, all drugs were administered at their maximum tolerated dose.

## ABOUT STARPHARMA

Starpharma Holdings Limited (ASX:SPL, OTCQX:SPHRY), located in Melbourne Australia, is an ASX 300 company and is a world leader in the development of dendrimer products for pharmaceutical, life science and other applications. Starpharma’s underlying technology is built around dendrimers – a type of synthetic nanoscale polymer that is highly regular in size and structure and well suited to pharmaceutical and other uses. Starpharma has three core development programs: VivaGel® portfolio, drug delivery, and agrochemicals with the Company developing a number of products internally and others via commercial partnerships.

Starpharma’s lead product is VivaGel® (SPL7013 Gel), a gel-based formulation of a proprietary dendrimer. VivaGel® is under clinical development for the treatment and prevention of bacterial vaginosis (BV) and also as a vaginal microbicide to prevent the transmission of sexually transmitted infections including HIV and genital herpes. Starpharma has also signed separate licence agreements with Ansell Limited (ASX:ANN) and Okamoto Industries Inc (Tokyo Stock Exchange) to market a value-added, VivaGel®-coated condom. Ansell manufactures and sells leading condom brands worldwide, including Lifestyles®, ZERO® and SKYN®. Okamoto is the market leader for condoms sold in Japan, the world’s second largest condom market.

In the wider pharmaceutical and life science fields, Starpharma has both partnered and internal programs in Drug Delivery. Partners include GSK, Lilly and AstraZeneca. In its internal program Starpharma recently announced significant tumour-

targeting results in its docetaxel (Taxotere®) program, with animal studies resulting in levels of the cancer drug in tumour tissue more than 40 times greater than seen with the conventional formulation. The company is also exploring dendrimer opportunities in agrochemicals and crop protection in a series of partnerships with leading industry players including Nufarm (ASX:NUF) as well as with internal programs including an enhanced version of glyphosate (the active ingredient in Roundup®).

#### FOR FURTHER INFORMATION

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#### **Forward Looking Statements**

This document contains certain forward-looking statements, relating to Starpharma's business, which can be identified by the use of forward-looking terminology such as "promising", "plans", "anticipated", "will", "project", "believe", "forecast", "expected", "estimated", "targeting", "aiming", "set to", "potential", "seeking to", "goal", "could provide", "intends", "is being developed", "could be", "on track", or similar expressions, or by express or implied discussions regarding potential filings or marketing approvals, or potential future sales of product candidates. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results to be materially different from any future results, performance or achievements expressed or implied by such statements. There can be no assurance that any existing or future regulatory filings will satisfy the FDA's and other health authorities' requirements regarding any one or more product candidates nor can there be any assurance that such product candidates will be approved by any health authorities for sale in any market or that they will reach any particular level of sales. In particular, management's expectations regarding the approval and commercialization of the product candidates could be affected by, among other things, unexpected clinical trial results, including additional analysis of existing clinical data, and new clinical data; unexpected regulatory actions or delays, or government regulation generally; our ability to obtain or maintain patent or other proprietary intellectual property protection; competition in general; government, industry, and general public pricing pressures; and additional factors that involve significant risks and uncertainties about our products, product candidates, financial results and business prospects. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described herein as anticipated, believed, estimated or expected. Starpharma is providing this information as of the date of this document and does not assume any obligation to update any forward-looking statements contained in this document as a result of new information, future events or developments or otherwise.