



## **Novel Targeted Cancer Therapy on show at Dubrovnik**

*London; March 24<sup>th</sup>.* Colin Hopper, one of Europe's leading practitioners of photodynamic therapy (PDT) believes PhotoBiotics' latest advance in targeting the technique will vastly improve the role PDT has to play in the treatment of cancer.

Now scientists, doctors, and clinicians will get the chance to share Hopper's enthusiasm for PhotoBiotics' research, and review the company's latest findings. They are presented at the first international conference of the European Platform for Photodynamic Medicine (EPPM-1), taking place this year in Dubrovnik, Croatia, between 24th and 28th March. Data on this innovative technology were recently published in the *International Journal of Cancer*.

In conventional PDT, diseased tissues containing light-activated drugs are illuminated with cold laser light. This converts oxygen into a highly toxic form which destroys any cells in its close proximity. To date, PDT has successfully treated head and neck, prostate and skin cancers; and compared to other cancer treatments, PDT leaves little cosmetic scarring and no possibility of drug resistance. But being non-targeted, conventional PDT cannot deliver the drugs specifically to tumours: they circulate in the body long after treatment, leaving patients acutely light-sensitised to skin damage.

PhotoBiotics latest proprietary research solves these problems. Called targeted PDT (*t*-PDT), the light-activated drugs are combined with special tumour-seeking proteins - antibody fragments - which specifically pin-point cancerous cells, and leave the body rapidly before they can cause skin damage. Based on its initial highly promising results, PhotoBiotics – a biotechnology spin-out company from Imperial College London – has filed four patents. Further pre-clinical studies are in progress, to take the technology forward into clinical trials, and expand the applications of *t*-PDT to many more cancers.

Dr Mahendra Deonarain, from Imperial College London's Department of Life Sciences and PhotoBiotics' chief scientist, explains: "We've shown that it's possible to

use tumour-seeking antibody fragments to deliver highly potent light-activated drugs safely and accurately to the site of the cancer. This minimises the risk of healthy tissue getting accidentally damaged in the treatment process, and maximises the number of cancer cells that are destroyed. As an added bonus, and quite counter-intuitively, we've discovered it's possible to attach more of these drug molecules to small antibody fragments than to much larger whole antibodies, without destroying the useful targeting properties of the fragment itself." No wonder Colin Hopper is excited by the potential of PhotoBiotics' targeted PDT.

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Notes to Editors:

1. The research paper is available here: <http://www3.interscience.wiley.com/cgi-bin/fulltext/116837461/HTMLSTART>

2. 'Targeted photodynamic therapy with multiply-loaded recombinant antibody fragments', The International Journal of Cancer, published online 31 October 2007.

**About PhotoBiotics** (see [www.photobiotics.com](http://www.photobiotics.com))

Photobiotics is a spin-out company from Imperial College London set up to develop novel biologically-targeted photodynamic therapeutic (*t*-PDT) agents which will specifically target and destroy diseased cells far more effectively than the conventional PDT in current use, and so significantly extend market penetration. Potential applications of this new technology include cancer, restenosis following angioplasty, various proliferative skin conditions, 'irresistible antibiotics' and many more. PhotoBiotics is highly distinctive in possessing a unique integrated multidisciplinary capability involving chemistry, laser physics and biology. For more information, go to the website; [www.photobiotics.com](http://www.photobiotics.com)

**About PDT**

Conventional PDT has an established niche in the treatment of certain cancers and in age related macular degeneration (AMD), with product sales in excess of \$500m annually. However, conventional PDT's clinical development and use have been slow to evolve owing mainly to the novelty of the treatment regimen and to post-treatment systemic photosensitivity. The photosensitising agent remains in the system for up to six weeks post treatment in some cases, and when it reaches the skin, patients can become exquisitely photosensitive to ambient light even on cloudy days, leading to symptoms akin to acute sunburn in uncovered parts of the body. Photobiotics uniquely targeted approach to PDT will overcome the issue of photosensitivity thus greatly extending the potential of this otherwise clearly superior treatment modality.