Press release from Biolight International AB

Danderyd, October 25, 2001

Biolight® effects shown using molecular biology technology.

New research results from the Karolinska Institutet show that effects of treatment with Biolight® can now be measured using molecular biology technology. The results indicate that six hours after treatment a significant increase in the activities of a number of genes could be observed, including genes coded for growth factors and collagen.

After several years of clinical studies Biolight International AB is able to provide significant results on wound healing and oral inflammations. Aiming to gain knowledge about what it is that makes treatment using monochromatic light a successful healing agent, Biolight® has linked with Dr. Gunnar Kratz at the Karolinska Institutet (KI) in Stockholm to carry out *in vitro* studies of the effects of Biolight® on fibroblasts, a cell type that is vital to healing ulcerations. The results of these studies indicated significant increases in the number of fibroblasts after treatment with Biolight®.
These effects have now also been studied by Professor Jan-Åke Gustafsson at Novum, KI, using a so-called Affymetrix method. This method enables measurement at a molecular level of differences in expression of various genes before and after treatment.

Professor Jan-Åke Gustavsson at the Institution for Nutritional Studies and for Biological Sciences at Novum KI, and Chairman of Biolight's Scientific Council, states that:
"The effects on fibroblasts treated with Biolight® have been studied using the so-called AFFYMETRIX methodology, a process allows for measuring differences in genetic expression before and after treatment. Six hours after treatment, significant increases in the activities of a number of genes were observed, specifically genes coded for growth and collagen. That the first group of genes is suppressed after light treatment can help explain the treatment's growth enhancing effects on fibroblasts, while an increase in the amount of collagen is in agreement with the method's healing effects on chronic ulceration."

"These new findings are very interesting since they indicate that the effects of treatment with Biolight® can now be measured using molecular biology technology, at the same time as they open particularly exciting possibilities for research on potential, but still hardly known, cellular photoreceptors," concludes Professor Gustavsson.

Christer Wallin, President of Biolight International AB, states:
"It is very stimulating that after many years of research, empirical trials and clinical studies of the effects of using the Biolight® method, it is finally possible to explain what occurs on a molecular level. The AFFYMETRIX method has provided us with a chance to understand better and to improve our current treatment program. It is also a tool for future work seeking new, effective methods for qualified treatment of various illnesses and conditions."

"The results of the recently completed Affymetrix study is very important to Biolight's continued research efforts. At the same time as we commercialise the method via both

Biolight Wound Care and Biolight Dental Care, we will move forward with additional studies on a molecular level in order to map out the operating mechanisms of the method. This is important not only to ensure that the method is firmly established in scientific fact, but also to optimise the treatment method in the long run."

AFFYMETRIX facts:

Gene expression profiling refers to methods or technologies for the simultaneous detection of levels of thousands of cellular messenger molecules or mRNAs. These messenger molecules mediate the information encoded in the genetic (DNA) material and use this information to synthesise proteins in the cell. It is these proteins that carry out most cellular functions. To measure the levels of mRNAs in the cell will therefore be an indirect measure of the levels of the different proteins. Methods to qualitatively and quantitatively determine proteins levels are not as advanced today.

There are in principle two technologies for the simultaneous detection of thousands of mRNA. Of these, the AFFYMETRIX technology (**www.affymetrix.com**) is the best validated. The estimate today is that there are in all between 30,000-40,000 mRNAs. Probes that specifically detect more than 10,000 mRNA are placed on so-called chips or micro-arrays. Each specific mRNA is only detected by its specific probe. For example, a mRNA from a cell that has been treated with a specific compound and a mRNA from a control cell are isolated and treated according to a specific protocol. These samples are incubated with one chip each. Each mRNA will bind only to its specific probe and such binding is detected and quantified using fluorescence. The difference in fluorescence intensity between the two samples is a measure of the difference in mRNA levels between the two samples.

Facts about Biolight International AB:

Biolight is a Swedish medical technology company that has developed a unique product for the treatment of damaged cells. The patented product is based on a method that introduces monochromatic light of a specific wavelength, pulse frequency and time. The light provides energy to the cell, increases its activities and initiates healing. A cell without sufficient energy is unable to contribute properly to healing.

The method speeds healing processes and supplements traditional treatment. It contributes to an improved quality of life and reduced treatment expenses. As it is not pharmaceutical, the treatment is non-pharmacological and is applied externally. It is simple, painless and without side-effects. Currently Biolight is active in tretament of ulcerations, dental care and rehabilitation.

Clinical studies using the same stringent design as for pharmaceutical products have demonstrated that Biolight methods reduce healing times significantly for both gingivitis and chronic ulceration. A phase III study regarding gingivitis has shown that patients treated with Biolight® have 87% greater reduction in their inflammation as compared to patients who have undergone traditional treatment.

Biolight International AB is a medical technology company, offering its customers, including patients, nursing staffs and authorities, various products and services based on the company's patented method for the use of pulsating, monochromatic light. The company aims to improve the quality of life for the patients and reduce the time to healing and treatment costs significantly. Through systematically executed clinical trials, Biolight is gradually extending the scientific basis needed to guarantee the method a solid position in the health care field. During the past few years, Biolight has focused on a small number of indication areas grouped around wound healing.

For further information, please visit Biolight's homepage www.biolight.se or contact Christer Wallin, President of Biolight International AB, on +46-(0)8-622 52 70.