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## New Hope for Patients Suffering from Degenerative, Inflammatory Eye Diseases

## TheraKine and Capsulution Start Joint Development

Berlin, 1st October, 2007 --- Capsulution NanoScience AG, a Berlin-based company, and TheraKine Ltd., an Irish company with significant operations in the United States, are establishing a joint project for the treatment of serious eye diseases. Their aim is to develop an innovative drug-delivery system for ophthalmic applications which will enable local sustained release of one or multiple anti-inflammatory and anti-proliferative biologic and small molecule compounds. This will allow the therapy of difficult to treat eye diseases such as uveitis, diabetic retinopathy and age-related macular degeneration (AMD).

The current treatment possibilities for inflammation of the eye are more than unsatisfactory. Steroids and immunosuppressants have many severe side effects and limited efficacy. Biologic compounds need regularly repeated intravenously or intravitreal injections at relatively high doses. When administered systemically, only traces of the compound reach the interior of the eye, but cause undesirable side effects due to high levels of the compound in other parts of the body. Intravitreal injections offer a solution to this; but currently these still require repeated injections and are limited to a small number of anti-VEGF drugs or long acting steroids. Only a small fraction of patients can be treated with current technology, and there are significant side effects such as internal bleeding, cataracts, retinal damage, increase of pressure inside the eye, and infection.

With the aid of Capsulution's formulation technology, TheraKine will bring an innovative drugdelivery system to the market. "We selected Capsulution because they have the right IP, skilled staff, and an entrepreneurial spirit.", explains TheraKine's CEO Scott Hampton. The collaboration with the internationally-renowned developer of nanocomplexes offers a promising advance towards the formulation of very easily degradable, water-soluble biologic compounds in combination with water-insoluble anti-inflammatory compounds or small molecules. According to Capsulution's Project CSO, Dr. Voigt: "For this application, controlled and sustained release of a pre-defined amount of compound is required." The compound depot in the biodegradable implant should, if possible, only be injected into the eye once.

Mr. Hampton declares: "TheraKine's mission is the creation of therapeutic system to improve vision and prevent blindness". He emphasizes the urgency of the situation: "Effective and safe treatments are desperately needed by millions of people who are currently suffering progressive vision loss due to chronic inflammatory and degenerative eye diseases. Our targeted local delivery will offer safety, effectiveness, and affordable treatment costs."

## **About Capsulution:**

Capsulution NanoScience AG is a leading nanotechnology company focusing on the development of tailor-made drug delivery systems and other innovative life science products based on tunable nano-sized capsules. The company applies its worldwide-patented so-called LBL-Technology<sup>®</sup>. Based on their minute size, their functionality and their highly reproducible production process the tunable capsules can be used for a multitude of different applications. Accordingly, the precisely sized capsules can be made to function in a manner to suit the intended application, and can be given the appropriate biochemical, electrical, optical and magnetic properties as required by the customer.

## **About TheraKine:**

TheraKine was founded in 2004 when a widely respected physician discovered better treatments for children who were rapidly losing their eyesight due to chronic inflammatory eye disease. Frustrated by the limitations of existing systemic delivery systems, the TheraKine team soon decided that a local, targeted approach to delivery would produce a much more effective and efficient outcome for the patient. This work continues, with exciting results in feasibility trials. TheraKine estimates that the first human clinical trials will start in the fourth quarter of 2009.