

Ventura County Inventors - Part 1

Great minds are everywhere

By [Daphne Khalida Kilea](#) 01/10/2013



Madalene Heng, M.D.

PUTTING AN END TO SKIN DAMAGE/INJURY

Madalene Heng, M.D.

Dermatologist

Creation: Psoria-Gold curcumin gel

Madalene Heng, M.D., of Oxnard, is an internationally known dermatologist whose research and analysis in topics, such as psoriasis, have been featured in more than 130 scientific publications. Although Heng's specialty involves a wide variety of conditions, it was her particular interest in psoriasis that led her to create the curcumin gel Psoria-Gold.

The origin of the curcumin gel began in 1994 while Dr. Heng was continuing her research into the cause of psoriasis, about which her first paper was published in 1983.

According to Heng, phosphorylase kinase (PhK), an enzyme found in the body, is an important key to understanding psoriasis and the birth of Psoria-Gold.

"I noticed there were fewer glycogen granules in psoriasis. This was interesting because other skin diseases and healthy skin all had more glycogen molecules, which have an important connection to the PhK enzyme," she explained.

After her discovery, Heng developed a skin analysis for PhK activity.

Five minutes after skin injury or contact allergy, PhK is released to the skin and activated by a switch-on mechanism. In normal individuals, PhK is switched off following skin repair — but individuals with psoriasis possess a malfunctioning switch-off mechanism, which triggers an outbreak of psoriasis by causing high levels of PhK in the skin by not shutting off after repair.

"At that time, I was looking for a PhK inhibitor, and I found it in curcumin gel, which I observed was able to return psoriatic skin to normal," she added.

The curcumin gel, which is derived from turmeric, has two purposes — inhibiting the activity of PhK and eliminating damaged cells in certain types of injury such as burns, therefore allowing for replacement with new healthy cells that aids in healing of skin injury and damage.

The treatment process is dependent on the type of injury or damage a patient has, but reportedly, the first step is eliminating any precipitating factors (hair dyes, elastics, lactose allergies, or bacterial infections).

"Use of the curcumin gel may also be in combination with a course of antibiotics and/or steroids. When the patient is completely clear, the plan is to withdraw the patient from topical steroid creams and antibiotics, followed eventually by withdrawal from curcumin gel," said Heng.

The curcumin gel is normally used for a shorter period of time, compared to standard treatments such as corticosteroids. These treatments do not suppress PhK, thereby leading to expensive and sometimes lifelong treatments that are usually accompanied by unpleasant side-effects.

There are other turmeric-based treatments available as pills but apparently, very little natural curcumin is absorbed orally. The pills do contain helpful properties, such as anti-histamine (counteracts allergic reactions) but do not contain anti-PhK activity.

Psoria-Gold has one noted inconvenience.

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“Curcumin gel has a yellow color and can possibly stain. However, the staining can be washed off with soap and water,” said Heng.

Heng’s discovery of the importance of PhK activity in skin diseases has played a significant role in her treatment regimens to heal injury and damage to the skin. Not content to be helping patients with Psoria-Gold, she continues to do scientific research on various subjects and aspires to continue to contribute in dermatology with possible other creations. Dr. Heng is currently practicing in Ventura County while serving as clinical professor of medicine at the UCLA School of Medicine.□