

# les nouvelles *esthétique* & spa

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# skin|skin wise

## cancer and soft coral from the Red Sea

**H**ARDLY A DAY GOES BY THAT we do not hear of a friend, colleague, family member, celebrity or acquaintance who is confronting cancer in one of its many horrific forms. It can sometimes seem as though no one is spared from the widespread disease. Cancer certainly has achieved epidemic proportions, with one out of every four deaths in the United States directly linked to cancer.<sup>1</sup>

nentially. The American Cancer Society estimates that there are more cases of basal and squamous carcinomas—the most common nonmelanoma skin cancers—discovered each year than all other forms of cancer combined, which total more than one million cases annually.<sup>1</sup> And that figure only includes the reported cases. These types of cancers, when left untreated, can lead to serious consequences and even death. There

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### The wonder coral

Here we highlight a recent scientific study that demonstrates how a natural marine product derived from Red Sea soft coral shows great promise in both the prevention and treatment of certain skin cancers. It inhibits cancerous cell growth and also fosters the orderly death of skin cancer cells.<sup>2</sup> The finding is important, as one of the problems in treating cancer cells is that some of the currently available treatment therapies attack and kill not only cancerous cells but healthy cells as well.

The incidence of skin cancers in their various forms is growing expo-

is no question that early detection and safe sun protection are critical. But for the first time in ages, scientists have found a new way to treat and hopefully prevent the occurrence and spread of these skin cancers.

### Terminology

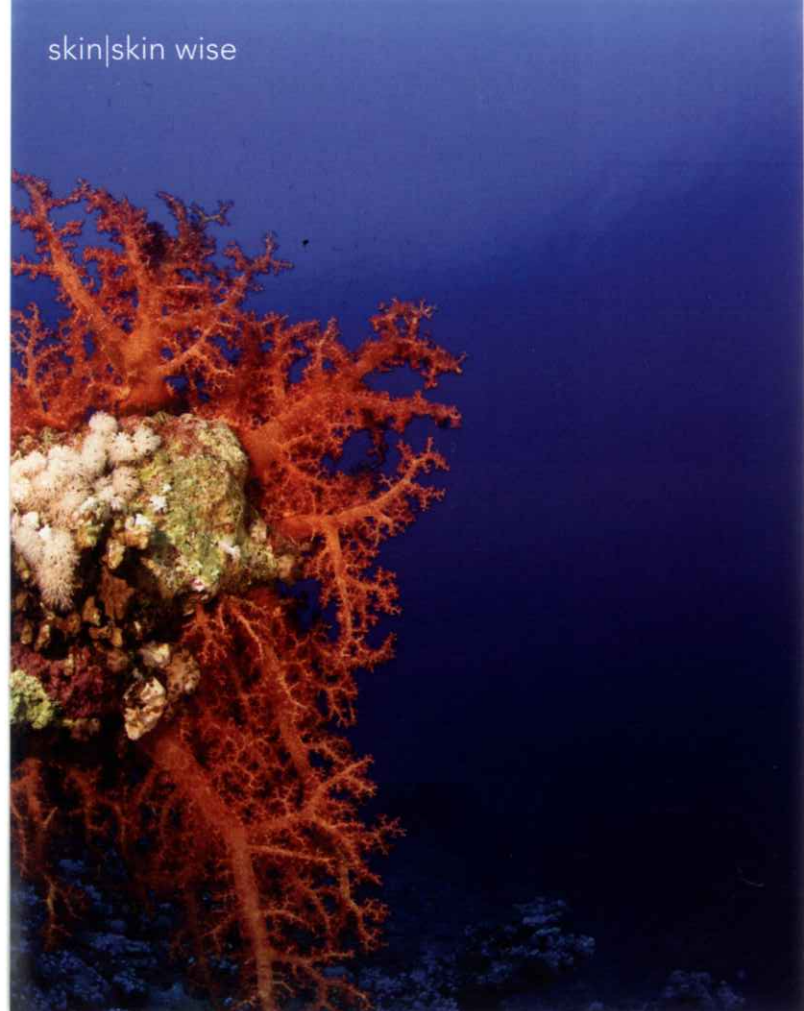
To understand the details of the recent discovery, you must be familiar with the following terms. *Chemoprevention* is the administration of naturally occurring or synthetic compounds to prevent or retard the progression of cancer. *Apoptosis* is the programmed death of unwanted or undesirable cells.



The *Translational Oncology Journal* published what may soon be a study that promotes a potential new way to treat as well as prevent skin cancers. The work can also pave the way for a brand new type of family of sun care ingredients. Researchers at South Dakota State University, under the leadership of world renowned distinguished professor Chandradhar Dwivedi, published a comprehensive study that lends hope for millions of people around the world.<sup>2</sup>

The findings build on earlier work using a natural marine substance found in Red Sea coral. Earlier research by other scientists has affirmed material interest in the use of natural marine products in the fight against cancer, both in its treatment and prevention. One of the ongoing problems has been the ability to harvest material quantities of natural and effective marine products. It is important to note that not all natural or marine products are effective.

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soft coral

The higher the dose of sarcophine-diol and the longer its application, the greater its positive effects last.

### Preventive and therapeutic agent

The Red Sea is home to a soft coral —*S. glaucum*—that has an ingredient with the scientific name of sarcophine as one of its components. The team of distinguished scientists was able to modify this ingredient into sarcophine-diol, which they tested on uncontrolled skin cancer cell growth. Dwivedi stated, "we are finding that sarcophine-diol could be used both for chemoprevention and as a chemotherapeutic agent."<sup>2</sup> When applied to the study of cancer cells, they found they were able to inhibit cell growth of cancers and to induce orderly apoptosis, the programmed death of skin cancer cells. The process is akin to a cancer cell death squad.

Using the marine based ingredient fashioned from Red Sea soft coral on human epidermoid carcinoma cells, the researchers were able to reduce the life span of cancer cells without causing the premature death of healthy cells. In addition, sarcophine-diol also arrested and limited the continued growth of cancer cells.

### Promising research

The higher the dose of sarcophine-diol and the longer it is applied, the greater its positive effects last. The finding points out that while some healthy cells are affected, significantly more damage was done to skin tumor cells, causing an orderly death of cancer cells.

While more studies are needed to fully understand how sarcophine-diol works, its potential as a chemotherapeutic and chemopreventive agent are welcome signs. The possible applications of these research findings in the treatment and prevention of certain skin cancer cells cannot be overstated. ■

1. American Cancer Society, *Cancer Facts and Figures*, 2008
2. Zhang, X., Bommateddy, A.; Hildreth, M.B.; Kaushik, R.S.; Zeman, D.; Khalifa, S.; Fahmy, H.; Dwivedi, C. Chemopreventive Effects of Sarcophine-diol on Ultraviolet B—Induced Skin Tumor Development in SKH-1 Hairless Mice. *Transl Oncol.* 2009 March 2 (1): 21-30.

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