

## NONI NEWS

*Morinda citrifolia*, commonly known as noni, has been and still is used in Polynesian folk medicine as a panacea or cure-all. In reviewing the scientific literature on noni, we find very few credible references describing phytochemical investigations. However, folkloric and anecdotal literature is abundant. *Morinda citrifolia* is called “Indian mulberry” in India where the leaf, roots and fruit of the plant are used for various medicinal purposes. In Polynesia, the fruit is commonly used for pain relief associated with arthritic joint ailments. The juice of the fruit is consumed as a beverage, and the skin of the fruit is used as a poultice for pain and wound healing. Noni juice has been shown to be a potent cancer preventative through stimulation of the immune system and by promoting antioxidant activity.<sup>1</sup>

Dr. William J. Keller, Vice President of Health Sciences and Educational Services at Nature’s Sunshine Products, realizes the benefit of preserving and protecting good health and therefore has made a commitment to further investigate and substantiate the folkloric uses of this medicinal fruit. While noni’s traditional uses are known, very little information is available for the compounds responsible for health benefits. That is why Dr. Keller set out to discover and investigate these compounds. Dr. Keller has collaborated with Dr. Douglas Kinghorn at Ohio State University. They performed bioassay-directed fractionation of a noni fruit extract. This led to the isolation of an extremely powerful cancer-chemopreventive compound named 2-methoxy-1,3,6-trihydroxyanthraquinone. This anthraquinone (a novel compound from nature) provides a rare example of this chemical structural type in fruit tissue. The new anthraquinone was found to induce quinone reductase at very low concentrations. This means that the newly discovered anthraquinone can stimulate Phase II enzyme systems that detoxify and eliminate cancer-causing chemicals (carcinogens) before they can damage human DNA. At the same time, this induced enzyme can also help protect and regenerate antioxidants such as vitamin E and coenzyme Q<sub>10</sub> in the body. So, not only can this anthraquinone detoxify carcinogens, but it also helps preserve existing protective antioxidants in the body. For this reason, quinone-reductase inducers are sometimes called “indirect antioxidants.”

The Keller and Kinghorn study showed that this new anthraquinone was 40 times more potent than sulphoraphane, another cancer-chemopreventive compound found in broccoli. Best of all, this anthraquinone showed no cellular toxicity even in the highest concentrations tested. Therefore, while noni appears to contain a potent cancer chemopreventive compound, it is non-toxic to healthy cells in the body.

We view this research as a commitment to the values of Quality, Service, and Integrity that are so important to Nature’s Sunshine Products and its distributors. NSP Managers know first-hand the benefits of noni because they use it in their practice to promote health. Now, through our scientific efforts, we know why this amazing plant has helped people throughout the world maintain good health.

Drs. Keller and Kinghorn published their work in the *Journal of Natural Products* 68:1720 (2005).

1) Proc West Pharmacol Soc. 39:7 (1996)