**Mahonia aquifolium**, also known as Oregon grape root, belongs to the Berberidaceae or barberry family. This evergreen shrub, native to the American northwest and adjacent areas of Canada, has been used in folk medicine to treat various infections and various rash es, especially those containing pustules or resulting from consumption of fatty foods (Dermatol. Ther. 2003;16:106-13).

In numerous investigations, Oregon grape root has displayed a wide range of biologic activities, including antioxidant, antimicrobial, and antitumorogenic properties. Although this column will focus on the *Mahonia aquifolium* species, it is worth noting that Mahonia bealei (also of the Berberidaceae family), native to China, exhibits anti-influenza effects in vitro (Zhong Yao Ca. 2003;26:29-40).

Research on the extract of the bark of *Mahonia aquifolium* has indicated that its primary bioactive characteristic is the inhibition of lipid peroxidation, and that its main constituents are the alkaloids berberine, berberine, and oxygenanthine (Planta Med. 1994;60:421-4).

Berberine-containing herbs have been used in folk medicine to relieve neuralgia (Comp. Med. East West 1995;61:74-5). Further, its photochemical interactions with dif ferent topical treatments, as well as its status in the sanctioned dermatologic armamentarium, positions this botanical as an important ingredient in a broad array of acne medications and over-the-counter preparations.

**Cosmeceutical Critique**

**Mahonia**

Berberine has been shown to induce apoptosis in promyelocytic leukemia HL-60 and J774 fibroblast cells (Arch. Pharmacol. 1996;354:102-6; Cancer Lett. 1995;93:193-200), and protoberberine alkaloid extracts of *Mahonia aquifolium* have exhibited significant topical anti-inflammatory activity (Biochem. Pharmacol. 1998;56:1157-66).

Berberine, which is also the main alka loid constituent of goldenseal, an herb used medicinally in eyewash and skin lotion formulations, was evaluated recently for its photochemical interactions with different solvents and potential phototoxicity to HaCaT keratinocytes. The alkaloid was a weak photosensitizer in water, but capable of generating superoxide anions and other radicals in a nonpolar setting, suggesting induction in cell viability and simultaneous elevation in DNA damage were observed in HaCaT keratinocytes exposed to UVA in the presence of berberine. The investigators concluded that exposure to the sun or to artificial UV A is contraindicated in people using topical products containing berberine (Chem. Res. Toxicol. 2001;14:1528-34).

In a study of the antitumorogenic activity of crude extract fractions of the bark of *Mahonia aquifolium* against the common direct-acting mutagen benzo[a]pyrene, inhibition of cell growth suppression (Planta Med. 1994;60:421-4). The second study examined 32 psoriasis patients with moderate bilateral psoriasis treated for 1 month, showed that patients improved after 1 week of treatment with *Mahonia* performing as well as or better than the vehicle-treated side. The authors suggested that the findings by numerous researchers in several countries show *Mahonia* to be safe and effective as a treatment for psoriasis (Am. J. Ther. 2005;12:398-406).

**Conclusions**

In addition to a long history of tradition al folk use of *Mahonia aquifolium*, there is an expanding tradition of modern use of this dynamic herb for several dermatologic indications, especially psoriasis. *Mahonia*’s reputation as a long-time natural remedy, as well as its status in the sanctioned dermatologic armamentarium, positions this botanical as an important ingredient in a broad array of acne medications and over-the-counter preparations.

In terms of psoriasis treatment, *Mahonia aquifolium* appears to belong among the various treatments considered for the mild to moderate stabilization of this calcitrant condition.

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