Clinical/Scientific evidence of Claims in Sibu Beauty products:

Topical Cream w/ sea buckthorn seed and fruit oils (more on “fruit&seedoil” doc)

ANTI-AGING/REPARITIVE/RESTORITIVE/PROTECTIVE

"Provides antioxidant activity for the maintenance of healthy skin." (Structure-Function)
[Beveridge et al, 1999; Passi et al, 2003; Zhai et al, 2005]

a) Passi et al (2003) conducted a clinical trial to study the effect of the combined use of topical bio-cosmetics containing natural active principles (including sebum-like lipid fractions, sebum and epidermal lipophilic and hydrophilic antioxidants), and oral antioxidant supplements on the antioxidant content of sebum and stratum corneum. The study treated the face and back of 50 female volunteers aged 21 to 50. Group A received oral supplements and a topical cream, whereas group B only received the cream. The cream, which contained 0.05% ubiquinone, 0.1% vit E, and 1% squalene, was applied daily to both groups for two months. The authors indicate that the concentration of vitamin E and ubiquinone, along with squalene, which are important factors against external oxidative damage, have been shown to decrease with age. Thus, the daily topical application led to a significant increase of CoQ10 , d-RRR-a -tocopherol and squalene in the sebum in both groups. The authors found that the sebum levels of lipophilic antioxidants and squalene did not significantly increase in Group A compared to Group B. Following the end of the treatment, the volunteers, by their own judgement, saw much improvement in cutaneous softness, smoothness and brightness. In both treatments, the sebum-like fractions of the cream were spread over the horny layer and acted as an emollient, keeping it soft. In addition the cream waterproofed the skin helping it retain its moisture, and thus maintaining or restoring a healthy skin barrier.
b) Zhai et al (2005) in a randomized and double-blind controlled study determined antioxidative capacity of a topical skin care emulsion (an oil-in-water vitamin E-containing formulation) versus its vehicle on human skin that was exposed to ultraviolet radiation (UVR) by utilizing a photo-chemiluminescence device and biophysical methods. A pH-balanced vitamin E emulsion or its vehicle control was applied onto pre-designated forearm prior to UVR exposure. Thirty minutes after application, these test sites were exposed to a UV light to induce the minimal erythema dose. One untreated site served as a blank control. Visual scoring and instrumental measurements were recorded at baseline and at 24 h and 48 h thereafter. These tapes were quantified for antioxidant capacity using a photochemiluminescence device. The investigators found that vitamin E emulsion and vehicle control significantly ($p < 0.05$) suppressed visual scores when compared with blank control at day 2 and day 3 after UV exposure. However, vitamin E emulsion showed significantly ($p < 0.05$) lower visual scores when compared with vehicle control at day 2 and day 3 after UV exposure. Also,vitamin E emulsion and its vehicle control significantly ($p < 0.05$) diminished skin color measurement (a*) values when compared with blank control at day 2 and day 3 after UV exposure. At day 2 after UV exposure, only vitamin E emulsion significantly ($p < 0.05$) reduced skin blood flow volume when compared with blank control. Vitamin E emulsion and its vehicle control showed significant ($p < 0.05$) reduction of blood flow volume when compared with blank control

at day 3 after UV exposure. The authors concluded that vitamin E emulsion and its vehicle control proved effective in preventing induction of erythema and reducing inflammatory damage caused by UV exposure. The effect of vitamin E emulsion exceeded that of an 'active control'.

c) Sea buckthorn flavones have been shown to promote wound healing activity. Gupta et al (2006) applied 1% w/v flavone to four full-thickness excision wounds created on the back of rats. Sea buckthorn showed an improved rate of wound contraction and a decreased time taken for epithelialization (16.3 days versus 24.8 days in control). The authors also observed that the sea buckthorn flavone possessed antioxidant activity. Following topical application, the wounds exhibited an increase in reduced glutathione (55.0%), vitamin C (70.0%) and catalase (20.0%) activities, as well as a significant decrease in lipid peroxide levels (39.0%).

d) Sea buckthorn is reputed to have considerable medicinal vaue (Li and Wang, 1998) and has been used to treat skin disorders (Beveridge et al, 1999). The seed oil is highly unsaturated (up to 73% of the fatty acids are linoleic or linoleic acids). Sea buckthorn's emollient properties contribute to its use in phytopharmaceuticals. Sea buckthorn seed oil absorbs in the UV-B range (290-320 nm) and thus may be used is UV skin protectant products. The seed oil contains 50-85 mg of carotenoid oil and 61-113 mg of vitamin E (approximately 50% alpha, 40% beta and 10% gamma-tocopherols) for every 100g of seed (Beveridge et al, 1999).

PHARMACODYNAMICS

Sea buckthorn seed oil is rich in the two essential fatty acids, linoleic (18:2 n-6) and a-linolenic (18:3 n-3) acids. The proportions of the two fatty acids in seed oil are commonly 30-40 and 20-35%, respectively.Other major fatty acids in seeds are oleic (18:1 n-9, 13-30%), palmitic (16:0, 15-20%), stearic (18:0, 2-5%), and vaccenic (18:1 n-7, 2-4%) acids (Kallio et al, 2000, 2002; Yang, 2001; Yang and Kallio, 2002). The seed oil contains 50-85 mg of carotenoid oil and 61-113 mg of vitamin E (50% alpha, 40% beta and 10% gamma-tocopherols) for every 100g of seed oil (Beveridge et al,1999).

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