

CLINICAL DATA – BETA-GLUCAN

Product details

"Beta-Glucan is a natural active ingredient offering significant performance-enhancing properties for personal care applications, Studies have shown that the molecule, despite its considerable molecular weight, is able to enter the stratum corneum and epidermis and penetrate deep into the dermis. The observed effect of Beta-Glucan on tissue restricting and wrinkle reduction are most likely effects mediated by fibroblast stimulation and collagen deposition in the dermis. These unique properties make out Beta-Glucan a promising and effective ingredient for cosmetics."

"Preliminary research indicates that a biopolymer from oat called Beta-Glucan may be capable of both penetrating deep into the skin and delivering significant skin benefits. Beta-Glucan is a linear polymer consisting of glucose molecules linked together in a particular fashion. It has a long history of safe use in skin care and dermatology as long-lasting, film-forming moisturiser. It has also been shown to work as anti-irritant and to speed up the healing of shallow abrasions and partial thickness burns. Beta-Glucan appears to enhance wound healing through several mechanisms including stimulation of collagen deposition, activation of immune cells and so forth" *Ref: Todorov, G., Oat beta-glucan's anti-wrinkle promise.*

Beta 1-3, 1-4 Glucan (Oat) is used as an anti-inflammatory for the promotion of collagen production, to reduce fine lines and wrinkles, and for scar and wound care. This skin care ingredient has the ability to penetrate deep into the skin, and has long been used for its healing effects.

Beta-Glucan may help treat skin disorders and remove fine lines and wrinkles

"The fight against ageing has received a scientific boost thanks to an innovative study done in part by a University of Alberta spin-off company—research that dispels a hard-help belief about the natural ingredient, beta glucan.

The study, published in the current issue of International Journal of Cosmetic Science, is the first to show that oat beta glucan can penetrate the skin despite years of doctors and scientists believing that the large molecule was too big.

The finding is significant, not only in the treatment of skin disorders and removing fine lines and wrinkles but in the promotion of wound healing and reduction in scarring following surgical procedures says Dr. Mark Redmond, president and CEO of Ceapro Inc, a spin-off company formed in the late 1980s to commercialise technology from the University of Alberta's faculties of pharmacy and medicine for the treatment of cold sores.

Beta-glucan is the soluble fibre found in the cell walls of oat kernels. Oat has a long history of safe use in providing fast, temporary relief of itching and pain associated with minor skin irritations, has been reported to improve the appearance of smoother skin and has helped wound healing. But it has been long believed that a large molecule such as Beta glucan was too big to penetrate the skin.

In this paper, Redmond and his co-authors describe using beta glucan-specific tracking dyes to show the skin penetration did take place. “Interestingly, the glucan penetrates in the same way that water penetrates a brick wall—it does not go through the brick, it goes through the concrete binding the bricks together” says Redmond. “As a result of our study, we now know that glucan works through the inter-cellular lipid matrix or the cell’s cement, to enter the lower levels of the skin. Of medical significance is that fact that beta glucan creams promote wound healing and reduction in scarring following surgical procedures.”

The research team, made up of Redmond, Ravi Pillai and Joachim Roding both from Symrise, then measured the depth of the skin that the glucan penetrated. Photographs show the actual reduction of wrinkles and consumers should expect to see similar results on themselves in as little as 10 days, says Redmond. Beta glucan is already in used in a number of products available to consumers including brand name products from Johnson and Johnson and Schering Plough. “The proof that we provide in this paper and other research that we have conducted is that glucan can have a specific and measureable effect on skin beyond making you look good and feel great,” says Redmond. “We also have indications that a number of applications in cosmetics are in the works to use glucan as the non-invasive alternative to Botox for those who are afraid of needles.”

Ceapro has also discovered that beta glucan can be used as a transdermal delivery system to feed drugs and other compounds into the skin. This development may lead to new and better ways of delivering such medicines as antihistamines and pain relievers.