

HYDREPAIR® FLOWER BIO COMPLEX



Natural Moisture and Regeneration

As the largest human organ, the skin fulfils a wide variety of different functions: sensory function, mechanical protection, barrier function, protection against UV light and temperature regulation. In order to perform these important tasks, an external and internal supply of nutrients, trace elements and skin-conditioning substances are necessary. Frequent washing and disinfecting puts a strain on the skin's protective function. Botanica has developed a purely natural HYDRepair® Flower Bio Complex which optimally supports moisturizing and regenerating cosmetic formulations.

PRODUCT INFORMATION

Composition:

Organic Honey: moisturizing & wound healing

Honey contains glucose, fructose, amino acids, enzymes, proteins, minerals and vitamins [1]. Due to its excellent soothing, moisturizing, antimicrobial and wound healing properties, the cosmetic and medicinal use of honey goes back several centuries [1]. *In vitro* and *in vivo* studies demonstrate the strong wound repair ability of honey, which can mainly be attributed to improved keratinocyte proliferation, which is accelerated by epithelialization (overgrowth of the wound with epithelial cells) [2,3].

Organic Red Clover Extract: wound healing

In traditional medicine, the dried red clover flowers are used for their anti-inflammatory, calming and antiseptic effects and as a wound healing agent. Red clover contains isoflavones and triterpene saponins, to which the *in vivo* demonstrated wound healing effect can be attributed [4].

Organic Sempervivum Juice: wound healing, cell regenerating

Houseleek (*Sempervivum tectorum*) contains polyphenols, tannins, proanthocyanidins and a high variety of flavonoids, which have been shown to have antioxidant, anti-inflammatory and antimicrobial effects [5,6,7]. An *in vitro* scratch assay performed on human keratinocytes showed a wound healing and cell regenerating activity of the organic Sempervivum juice similar to organic Aloe Vera juice, which was tested for comparison [8].

Organic Glycerin: moisturizing

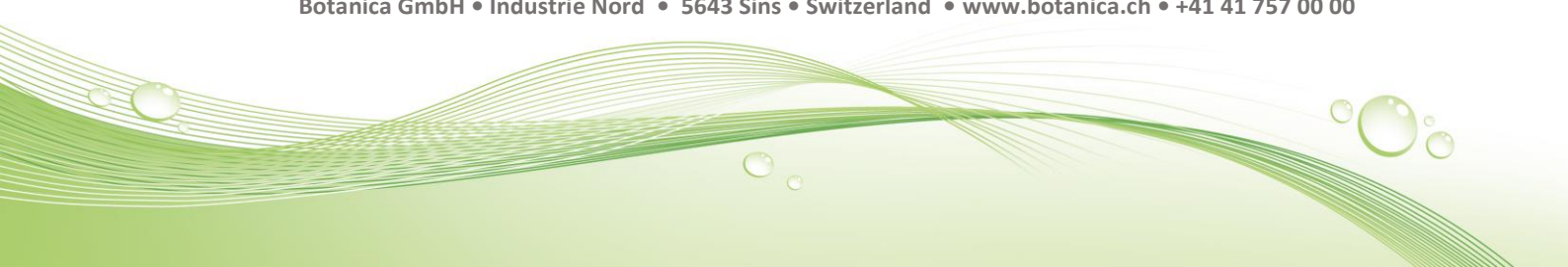
Glycerin is a natural component of animal and vegetable fats and oils. It is used for various functions in cosmetics, mainly as a moisturizer [9].

Additional Information

Botanica Product Number:	P-00025833, see specification
Organic & Natural Cosmetic:	compliant, see specification
Origin:	100% natural, 100% organic, free from coconut & palm oil
Extraction Process:	Maceration, without addition of water



My plant extracts, naturally



Bibliography

- [1] Burlando, B., and Cornara, L. (2013). Honey in dermatology and skin care: a review. *Journal of Cosmetic Dermatology* 12, 306–313.
- [2] Kotian, S.R., Bhat, K.M.R., Padma, D., and Pai, K.S.R. (2019). Influence of traditional medicines on the activity of keratinocytes in wound healing: an *in-vitro* study. *Anatomy and Cell Biology* 52, 324.
- [3] Bergman, A., Yanai, J., Weiss, J., Bell, D., and David, M.P. (1983). Acceleration of wound healing by topical application of honey. *The American Journal of Surgery* 145, 374–376.
- [4] Renda, G., Yalçın, F. N., Nemutlu, E., Akkol, E. K., Süntar, İ., Keleş, H., ... Ersöz, T. (2013). Comparative assessment of dermal wound healing potentials of various *Trifolium* L. extracts and determination of their isoflavone contents as potential active ingredients. *Journal of Ethnopharmacology*, 148(2), 423–432.
- [5] Alberti Á, Szőke É, Kéry Á, (2007). Evaluation of phenolic compounds in *Sempervivum tectorum* L. *Planta Med*, 73 – P 272.
- [6] Cushnie T.P. and Lamb A.J. (2005) Antimicrobial activity of flavonoids. *International Journal of Antimicrobial Agents* 26(5):343-356.
- [7] Kumar S. and Pandey A.K. (2013) Chemistry and Biological Activities of Flavonoids: An Overview, *The Scientific World Journal* Article ID 162750 <http://dx.doi.org/10.1155/2013/162750>.
- [8] Botanica Internal Documentation: *Sempervivum* Bio Juice (CH) P-00002997.
- [9] Becker, L.C., Bergfeld, W.F., Belsito, D.V., Hill, R.A., Klaassen, C.D., Liebler, D.C., Marks, J.G., Shank, R.C., Slaga, T.J., Snyder, P.W., et al. (2019). Safety Assessment of Glycerin as Used in Cosmetics. *International Journal of Toxicology* 38, 6S-22S.

Author: OH, LS

Date: 03.05.2021

Number: 01

Version: 02

Source pictures:

AdobeStock_191582608

AdobeStock_315072173

AdobeStock_270290834

AdobeStock_269036262



Botanica

My plant extracts, naturally

