

food&health



# DracoBelle™ Nu

Key to skin's beauty by  
boosting collagen repair



# DracoBelle™ Nu

## Biological Source



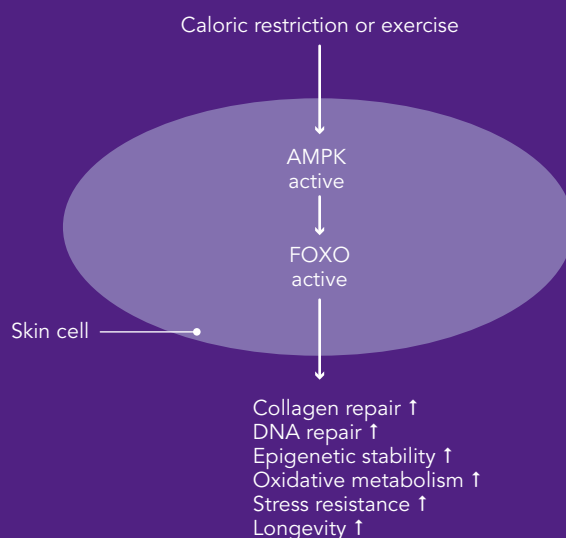
DracoBelle™ Nu is a unique, natural, high quality and sustainable Moldavian Dragonhead extract spray-granulated onto isomalt. The Moldavian Dragonhead (*Dracocephalum moldavica*) is a member of the mint family (Lamiaceae) and is native to Central Asia and naturalized in Eurasia and the US. The aerial parts of the Moldavian Dragonhead are traditionally used in Central Asia where anti-oxidant, cardio-protective and anti-aging effects have been reported. The lemon balm-scented leaves and flowers are traditionally used to make a refreshing tea which has become increasingly popular throughout Europe. Furthermore, they can be used to flavor salads as well as fish and meat dishes.

The organically cultivated aerial parts of Moldavian Dragonhead are used to prepare DracoBelle™ Nu and secure a high content of flavonoid glucuronides such as Apigenin-glucuronide and Luteolin-glucuronide.

## Mode of Action: Activation of AMPK/ FOXO longevity pathway



DracoBelle™ Nu deploys beneficial effects by activating the anti-aging and longevity intrinsic pathways of AMPK (AMP-activated kinase) and FOXO (Forkhead box protein O). It triggers improved collagen and DNA repair, cellular defense, oxidative stress resistance and cell detoxification. The activation of this longevity pathway leads to a rejuvenation of the skin which in turn results in a more youthful and gorgeous appearing skin. AMPK is an energy sensor that becomes active in response to low energy levels (caloric restriction) as well as when stimulated through exercise. When activated, AMPK stimulates energy production from glucose and fatty acids and inhibits energy consumption. Active AMPK mediates FOXO activity and an increased FOXO activity results in an activation of various anti-aging mechanisms. AMPK and FOXO activities are regulated by their phosphorylation patterns.

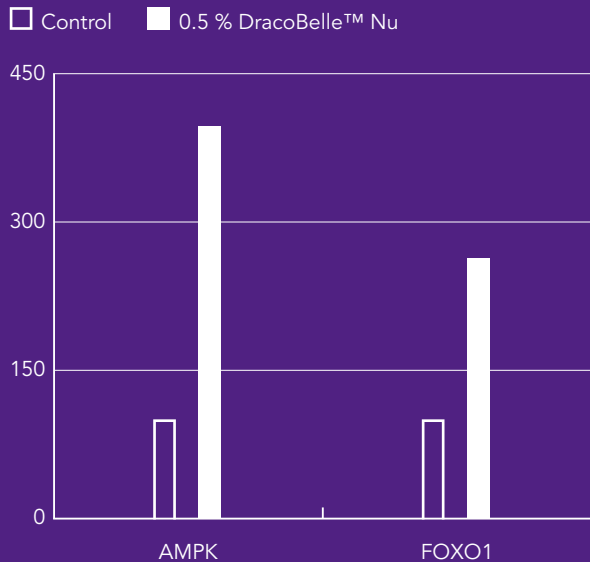


# Bioassay Study Results



A cellular assay has been performed in order to evaluate the effect of DracoBelle™ Nu on the activation of AMPK and FOXO, which results in a fourfold increase in AMPK activity and a threefold increase in FOXO activity, based on phosphorylation levels of both proteins. These results demonstrate on a cellular level that DracoBelle™ Nu mimics the positive effects of a low caloric diet and healthy exercise.

Active protein/total protein ratio compared to control (=100) in %



S-683 / © Mibelle Biochemistry

# Clinical Study Results

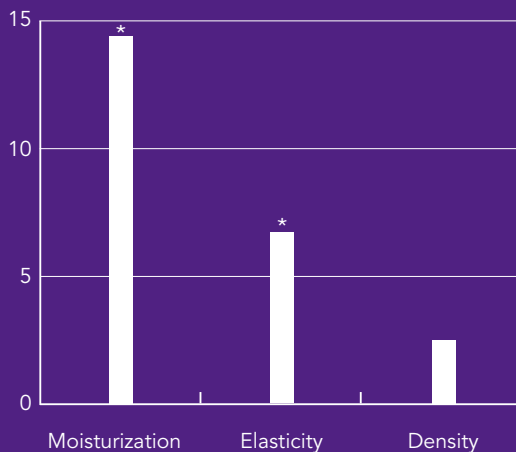


The effects of DracoBelle™ Nu on skin appearance parameters were evaluated on a test panel that comprised of 32 female volunteers (mean age: 50.8 years) with sun-damaged skin. A quantity of 200mg of DracoBelle™ Nu was taken on a daily basis in the preferred drink of the volunteers over a period of 8 weeks. Skin parameters were analyzed on the forearms at the beginning and at the end of the study.

- Skin moisture increased by 14.4%
- Skin elasticity increased by 6.7%
- Skin density increased by 2.5%

In addition, high resolution ultrasound dermal imaging was used to visualize the improvement of skin dermis/epidermis density. Furthermore, study results were confirmed by a questionnaire-based evaluation as 94% of volunteers felt better in their skin, 75% of volunteers were satisfied by the product performance and 72% of volunteers considered their skin to feel more hydrated.

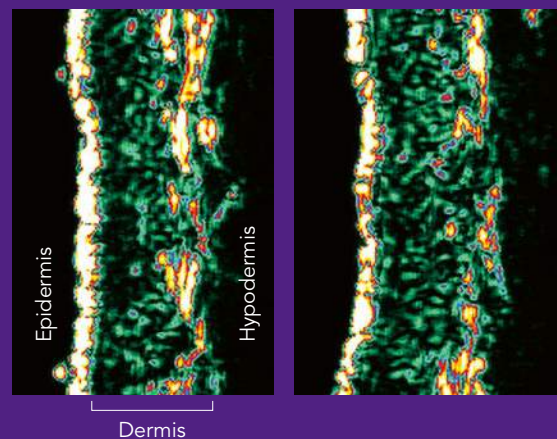
Increase in skin parameters compared to initial conditions in %



\*\*p<0.005 versus initial conditions

Before

After 2 months



S-725 / © Mibelle Biochemistry

S-725 / © Mibelle Biochemistry

## Suitable Product Applications

- Beauty from within
- Skin perfection, hydration and regeneration
- Anti-aging and protective antioxidants

## Product Attributes

- Water-soluble powder that is suitable for dietary supplement and functional food applications
- Weak sweet, lemon balm-like taste and odor
- Recommended daily dosage of 200 mg

## Benefits

- DracoBelle™ Nu is a natural anti-aging ingredient that is prepared from the organic aerial parts of cultivated Moldavian Dragonhead and ultimately spray-granulated onto isomalt
- DracoBelle™ Nu exerts beneficial effects by activation of the anti-aging and longevity pathway AMPK/FOXO (caloric restriction effect)
- Clinically demonstrated improvement of skin moisture, elasticity and density
- High Resolution Ultra-Sonography showed that DracoBelle™ Nu increased extracellular matrix/collagen density



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