



# DragonCell

Stem cells of Northern Dragonhead  
(INCI: Dracocephalum ruyschiana callus culture extract)

## ALTERNATIVE PLANTS

Stem cell cultures of Northern Dragonhead (*Dracocephalum ruyschiana*) are powerful producers of biologically active compounds. Specifically tailored cell cultivation and extraction methodology allows us to leverage the full potential of this Nordic botanical treasure. DragonCell is an extract from *Dracocephalum ruyschiana* stem cells. Advanced cell cultivation technology combined with optimized extraction provides extract rich in bioactive compounds with proven biological activity.



## A unique chemical composition

DragonCell contains high concentration of phenolic substances. Among them >60% are caffeic acid derivatives, including rosmarinic acid and chlorogenic acid. These are well known antioxidants with beneficial biological activities, including anti-inflammatory, anti-collagenase, anti-tyrosinase.

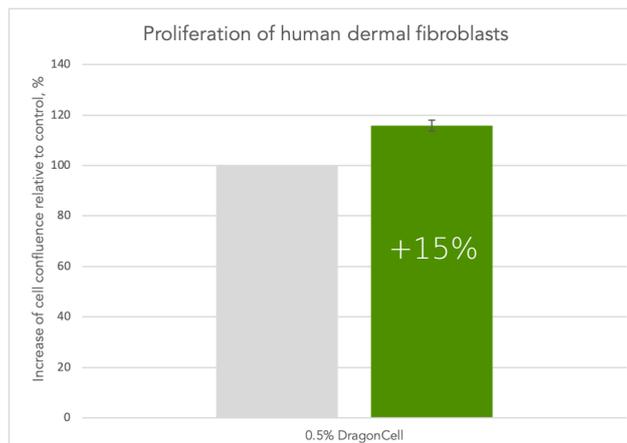
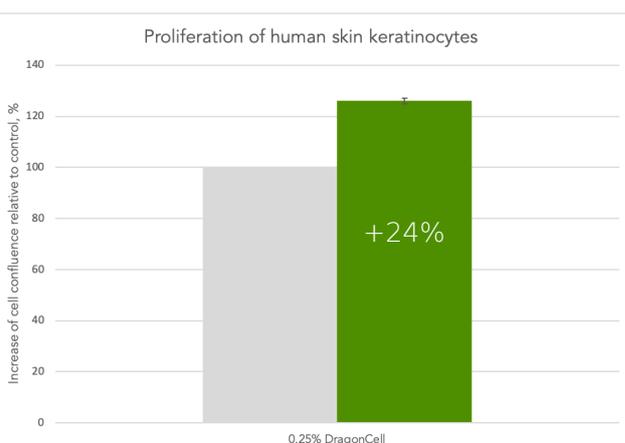
Extract contains a rich blend of amino acids. Glutamine, leucine, isoleucine and arginine are present. These amino acids are not only building blocks of proteins, but also play role in cell proliferation and skin regeneration. DragonCell also contains vitamins B5 and B6, that are well-known to play role in skin health.

## How does it work? In vitro efficacy data

In vitro testing of DragonCell includes tests on skin cells. We use different analytical methods to assess the safety and efficacy, moreover to deliver the best claims we combine our skills and knowledge with that of our testing partners from universities and private testing laboratories.

### Effect on skin cell proliferation

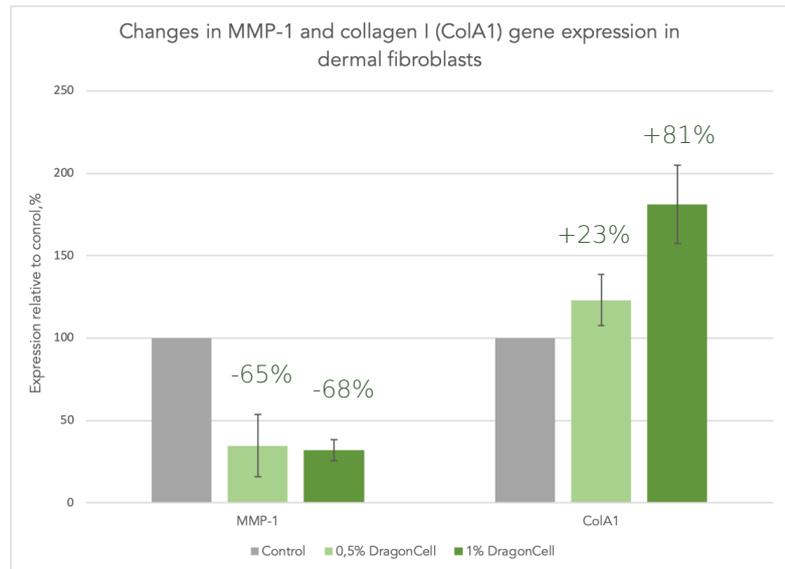
DragonCell already at concentrations 0.25% and 0.5% stimulate skin cell growth and division. Just 24h after application it increases proliferation of skin keratinocytes by 24%. Proliferation of dermal fibroblasts is increased by 15% within 48h.



**Claim suggestions:**  
Promotes skin cell proliferation  
Stimulates activity of skin cells

## Promotes collagen production

Collagen levels and its quality decreases as skin ages. Increased concentrations of collagen degrading enzymes matrix metalloproteinases are characteristic to ageing and inflamed skin. To promote skin's beauty and functionality by anti-ageing cosmetics there is continuous search of collagen synthesis stimulating ingredients, as well as ingredients that are capable to protect collagen from degradation. DragonCell already at concentrations 0.5% and 1% stimulates expression of collagen by up to 81%. In the same time DragonCell effectively downregulates expression of collagen degrading enzyme MMP-1 by 68%.



## Safety for us is as important as efficacy and quality

A comprehensive set of safety tests has been performed in-house as well as by our contract research partners

Cytotoxicity was according to OECD TG129 – no cytotoxic effects were observed.

MTT cytotoxicity test according to ISO 10993-5:2009 – has no cytotoxic potential.

Evaluation of the acute cutaneous tolerance on adult subjects with sensitive skin (single patch test) - non-irritant.

In vitro evaluation of the ocular potential irritancy in agar overlay test – does not have irritant properties.

Phototoxicity study according to OECD TG432 - does not have phototoxic properties.

<https://alterantiveplants.eu>

[info@alternativeplants.eu](mailto:info@alternativeplants.eu)

+371 26352505

+371 28368901