

Biocellact CHAMOMILLA BD was elected to the final candidate of "Innovation Zone Best Ingredient Award 2011" at in-cosmetics® in Milan, March 2011.



**Approach to
new anti-aging technology
targeting skin TA-stem cells**

Biocellact CHAMOMILLA BD

<Chamomilla Recutita (Matricaria) Flower Extract>

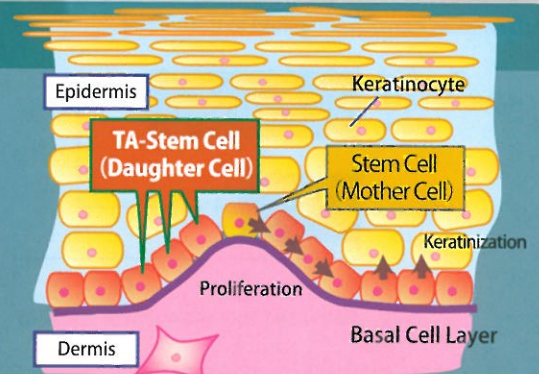
[This product is permitted to be used as quasi-drugs in Japan]



Revitalizing of Keratinocyte by Activating TA-Stem Cells for Rebirth of Young Skin

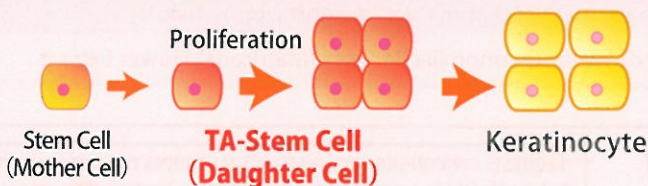
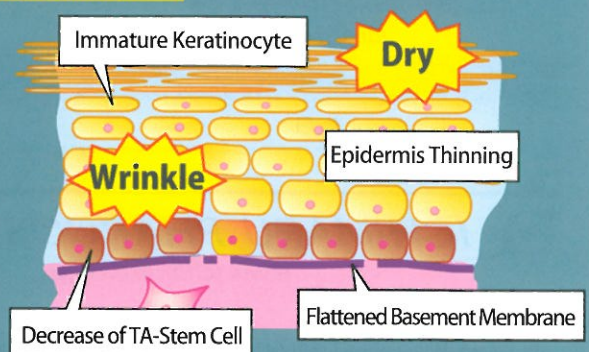
The epidermis is one of the body tissue where metabolism is most active. Epidermal fresh cells are supplied by stem cells <Transit Amplifying (TA)-stem cells>, the original source of cells. TA-stem cells lose proliferative capacity by aging and the skin become senescent.

Biocellact CHAMOMILLA BD exhibited longevity in skin TA-stem cells. Therefore, Biocellact CHAMOMILLA BD can be considered as a potential cosmetic ingredient for anti-aging cosmetic products development.



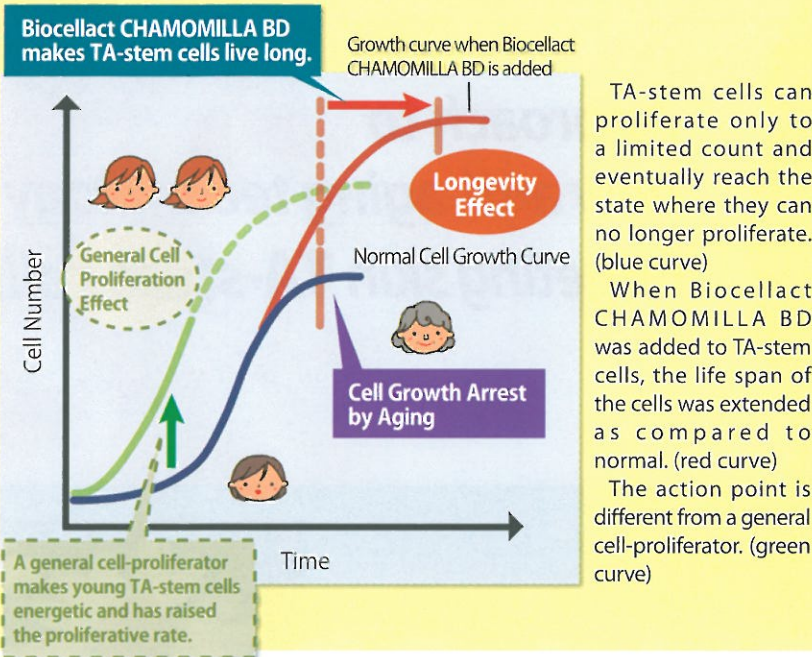
Decrease in
Proliferation and
Function of
TA-Stem Cell

Aging



Daughter cells (TA-stem cells) were born from mother cell (stem cell) and supply fresh cells to epidermis.

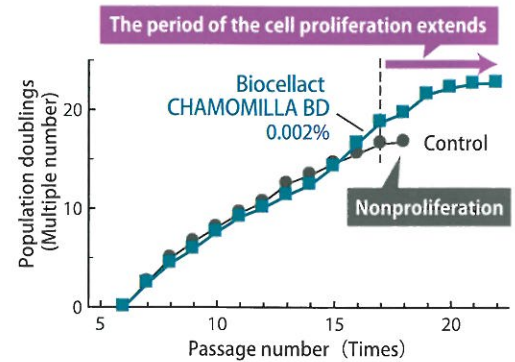
TA-Stem Cell Proliferation and Longevity Effect



TA-Stem Cell Life-Extending Effect <Longevity>

When Biocellact CHAMOMILLA BD was added to cultured TA-stem cells, the life span of the cells was extended as compared to the control.

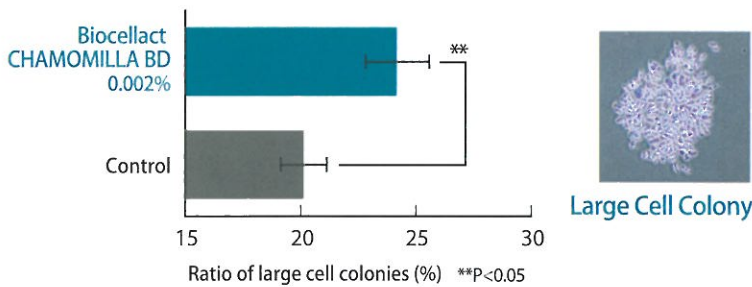
According to the test result described above, Biocellact CHAMOMILLA BD is expected to have an effect to prevent skin aging by extending the life span of TA-stem cells.



→ The longer is the period when the number of cells increases, the more the cell lifetime is elongated.

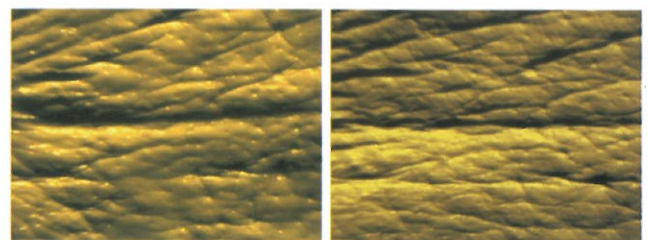
TA-Stem Cell Anti-Aging Effect <Eternal Youth>

If TA-stem cells are cultured under conditions of extremely low cell density, many of the cells stop proliferation as if they are aged, some of the cells escape from the aging, form colonies (cell aggregates) and proliferate. When Biocellact CHAMOMILLA BD was added to culture systems of TA-stem cells inoculated with low concentrations, colony-forming unit (colony count/inoculated cell count) showed an increase compared to the control.



Anti-Wrinkle Effect

2% solution of Biocellact CHAMOMILLA BD was applied on one side of the face of eight male or female test subjects in their 30's to 50's for 8 weeks. As a result, wrinkles at their eye corner significantly decreased.



40's Male (Japanese), 2% Biocellact CHAMOMILLA BD

Product Specification

Product Name	Biocellact CHAMOMILLA BD
Description	Light yellow to brown or reddish brown liquid, having slightly characteristic odor
Identification	Tannin
Purity	Heavy metals 20 ppm max., Arsenic 2 ppm max.
INCI	Butylene Glycol, Water, Chamomilla Recutita (Matricaria) Flower Extract

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