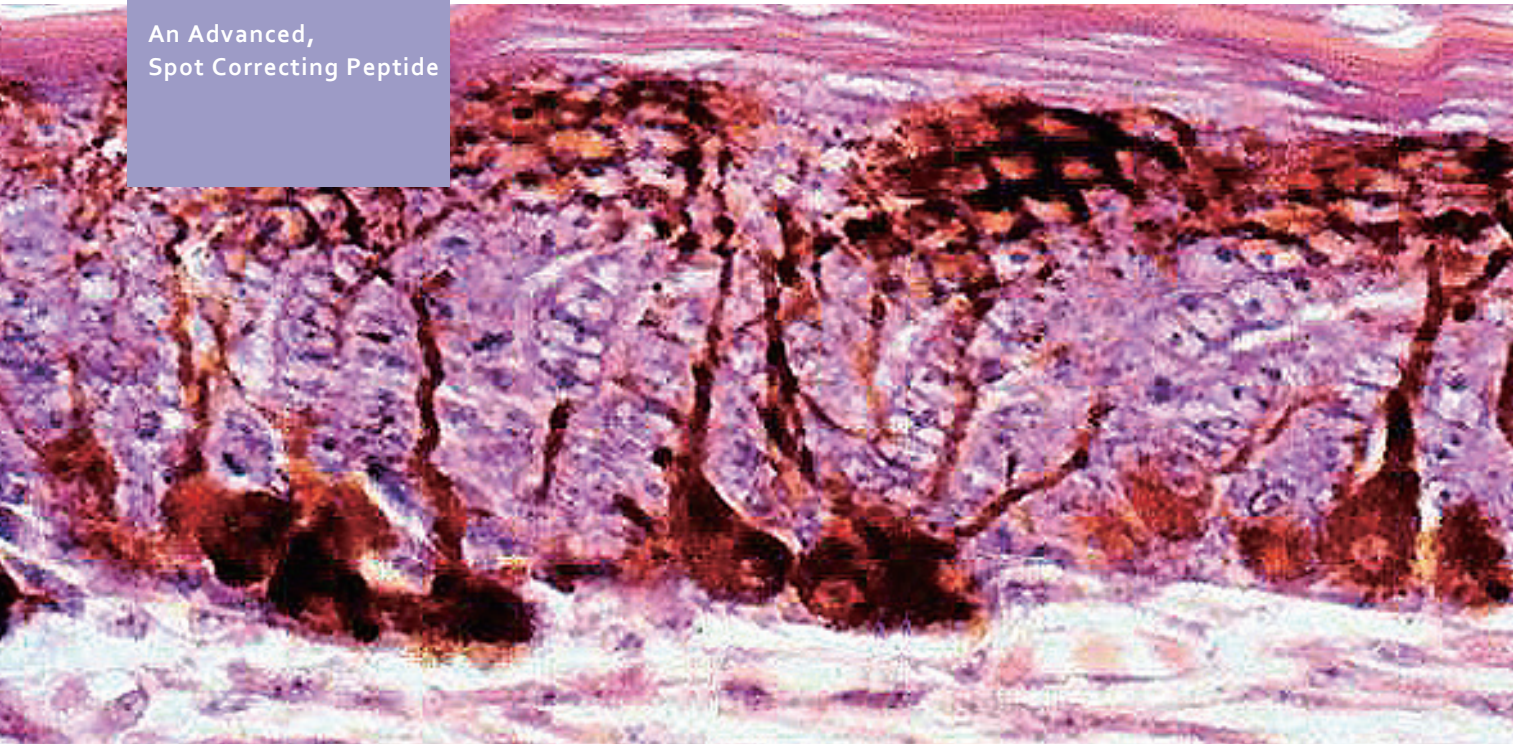


# GenoWhite™

An Advanced,  
Spot Correcting Peptide

## Inhibition of Melanosome Transfer



## GenoWhite™

### INCI Declaration

Acetyl Glycyl  $\beta$ -Alanine

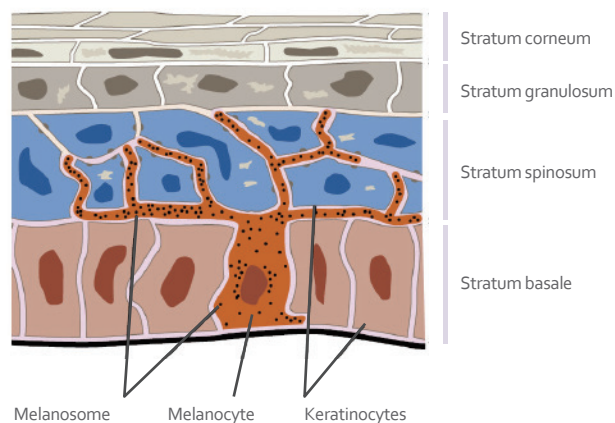
### Benefits

- Lighten skin
- Reduce dark spots
- Improve skin clarity
- Even out skin tone
- Prevent pigmentation

### Applications

- Skin whitening/ lightening
- Age spot corrector

To understand pigmentation of human skin and factors involved, the intricate interactions between melanocytes and keratinocytes in epidermis are important aspects to focus on. Membrane and actin cytoskeleton dynamics during melanosome transport to dendrites have determinant influence over pigmentation. In particular, the phagocytotic mechanism of uptake by keratinocytes to ingest melanosomes released by the melanocytes as well plays a pivotal role in the pigmentation process.

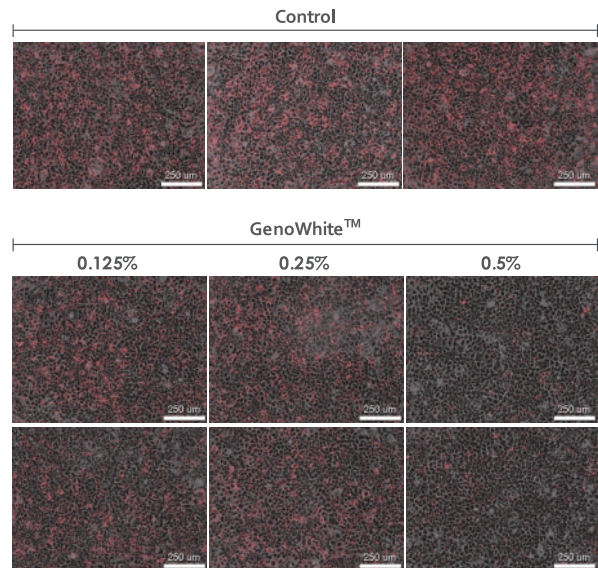
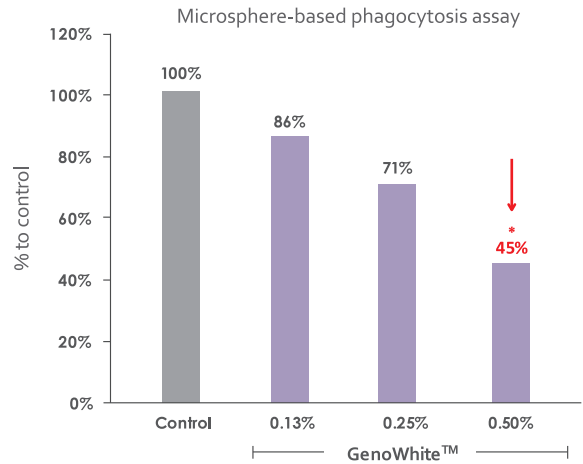
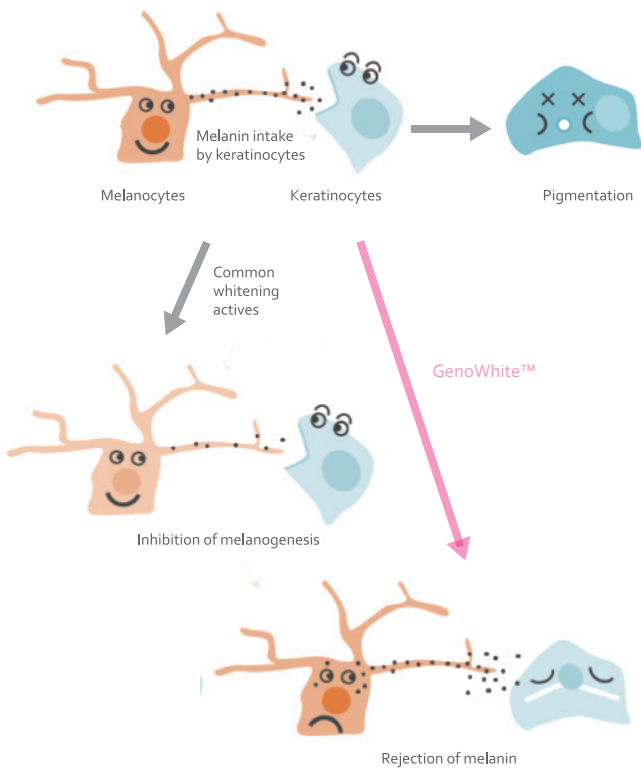


GenoWhite™ (INCI: Acetyl Glycyl  $\beta$ -Alanine) is an advanced potent whitening peptide technology, which not only targets the transcriptional/translational modulation of melanin-promoting enzymes but also interferes with the transport of melanosomes as well as phagocytotic process during melanosome transfer. To research and understand the possible effect of GenoWhite™ on the melanosome uptake by keratinocytes, we analyzed the uptake kinetics of fluorescent latex beads (microspheres) in human keratinocytes (HaCaT) cell culture. Phagocytotic activity of keratinocytes was investigated by the distribution intensity of fluorescent microspheres with and without GenoWhite™ using fluorescence microscopy.

# GenoWhite™

## Microsphere-Based Phagocytosis Assay

Most whitening actives achieve whitening result by reducing the synthesis of melanin. Differently, in addition to this action, a new mechanism on melanosome transfer is depicted by GenoWhite™ as a powerful whitening peptide that can also target this transfer step to further block produced melanosome uptake by keratinocytes, therefore enhancing the inhibition of skin pigmentation.



Microscopic images taken from control group (testing medium only) and cultures pre-incubated with GenoWhite™ demonstrate that the peptide can significantly reduce fluorescent microspheres uptake. Quantitative data indicates that up to 55% of phagocytosis inhibition was detected when applied with only 0.5% of GenoWhite™. The inhibition effect was exhibited in a dose-dependent manner.

*The microsphere-based phagocytotic assay indicates a novel pathway of GenoWhite™ in preventing the transfer of melanosomes uptake by keratinocytes, an important step leading to pigmented skin.*

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