

Description

Natural moisturizing factor (NMF) in the stratum corneum has a high moisture retaining efficacy, and plays a major role in the skin barrier function.

Pyrrolidone carboxylic acid (PCA) is one of the major NMFs found in human skin.

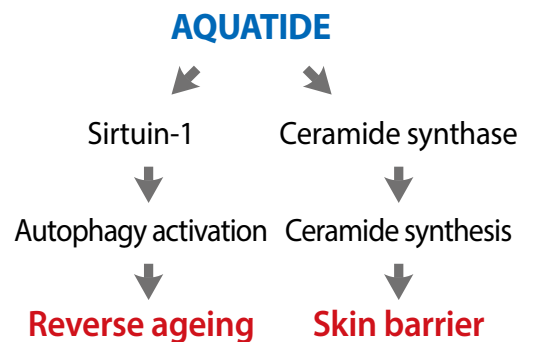
Aquatide, PCA-mimetic peptide, increases moisturisation, activates autophagy, reduces Trans Epidermal Water Loss (TEWL) and improves the skin barrier function.

Autophagy, Ceramide and AQUATIDE

Autophagy is the natural destructive mechanism that allows the orderly degradation and recycling of cellular components. Increased autophagy delays ageing and extends longevity.

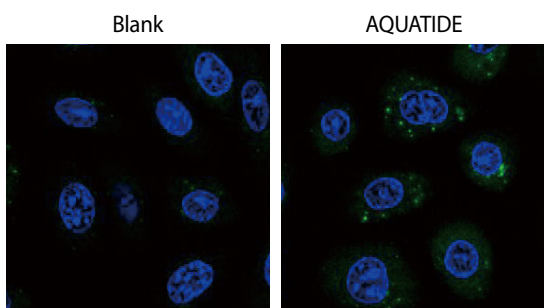
AQUATIDE, the first known peptide-derived SIRT1 activator, activates SIRT1 by direct interaction. SIRT1 has been known as “longevity protein” that increases lifespan of various organisms. Through this interaction **AQUATIDE** increases a deacetylation of SIRT1 target protein FoxO1, resulting in the cell protective autophagy.

Ceramide is the main component of the stratum corneum that prevent water loss and entrance of undesired substances. So, Increase of ceramide strengthens barrier function. **AQUATIDE** increases ceramide synthesis through ceramide synthase 3 expression.



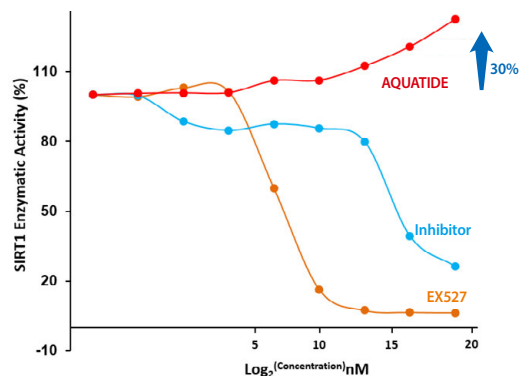
Biological Activity

Activates Autophagy



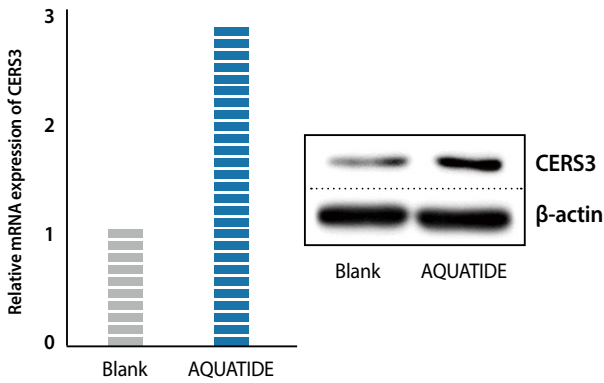
AQUATIDE treatment increases autophagic LC3 puncta formation (green dots)

Activates SIRT1



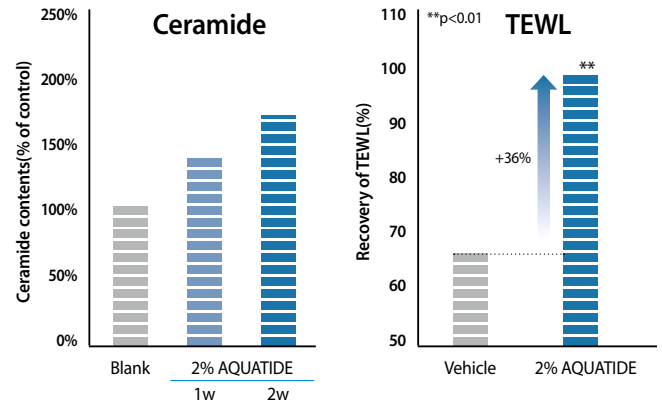
AQUATIDE activates SIRT1 enzymatic activity

Induces Expression of Ceramide Synthase



AQUATIDE increases expression of ceramide synthase 3 in mRNA and protein level.

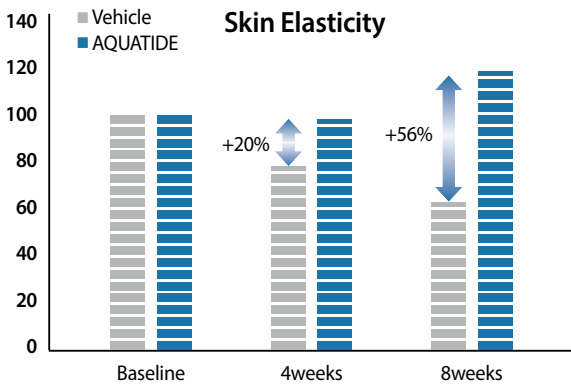
Increases Ceramide and Normalizes TEWL



AQUATIDE increases biosynthesis of ceramide and enhances skin barrier function

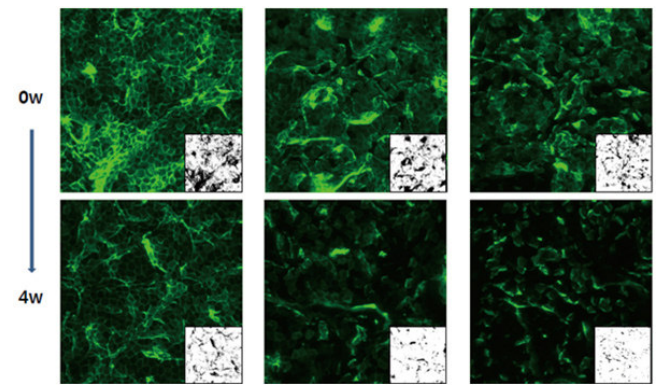
Clinical Efficacy

Improves skin elasticity



AQUATIDE containing formulation improves skin elasticity (by Ballistometer)

Improves antioxidation ability



AQUATIDE containing formulation improves antioxidation activity and reduces protein carbonylation.

PCPC/INCI Name

- Heptasodium hexacarboxymethyl dipeptide-12

Composition

- Aquatide • 1,2-Hexanediol • Water

Patent No KP 10-1384744, 10-1705338, US 9,359,401, EP 2716651, JP 5781224

Application

- Sensitive skin care
- Anti-ageing
- Anti-oxidant
- Anti-inflammation
- Anti-ACNE

Recommended Dosage

- 1~2% for cream, lotion and essence formulation
- 0.01~0.1% for masksheet