

Efficacy

- Activates autophagy
- Activates Sirt1
- Increases water retaining activity
- Increases ROS scavenging activity
- Reduces inflammatory signals
- Reduces TEWL
- Strengthens skin barrier function
- Reduces ACNE symptoms

Composition

- 0.5% Aquatide (Hexacarboxymethyldipeptide-12)
- 2% 1,2-Hexanediol
- 97.5% Water

Application

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

Recommended Dosage

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

Technical Data Sheet

Trade Name	Aquatide 5000
Description	Liquid of 5,000ppm Hexacarboxymethyldipeptide-12
CAS No.	1894171-13-1(Aquatide) 6920-22-5 (1,2-hexanediol)
Appearance	Clear liquid with characteristic odor
Shelf Life	12 months
Storage	Room temperature, tightly closed
Pack Sizes	1kg

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AQUATIDE 5000[®]

Reverse-Ageing through AUTOPHAGY



AQUATIDE 5000

Reverse-Ageing through AUTOPHAGY

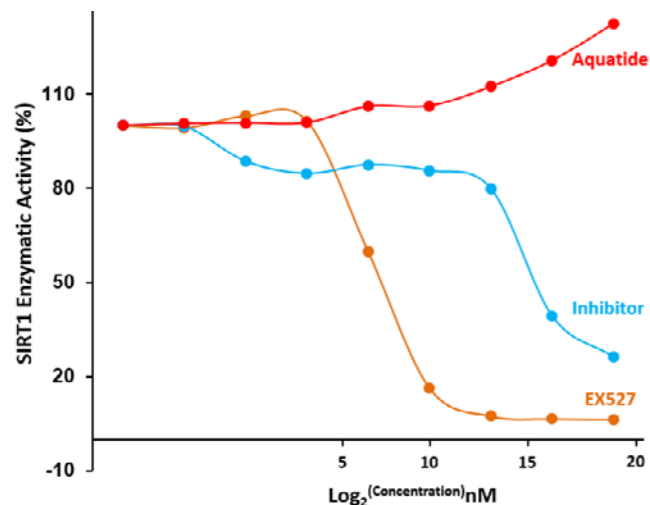
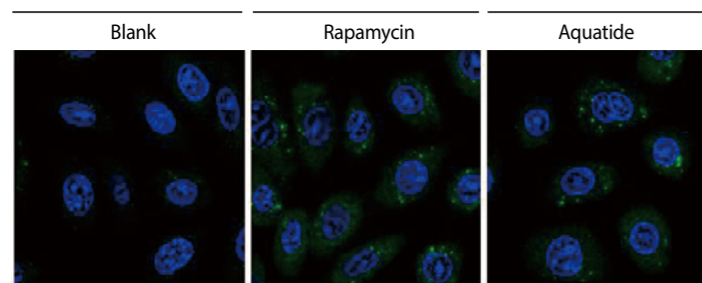
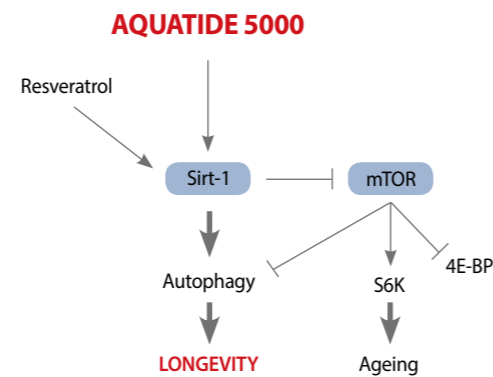
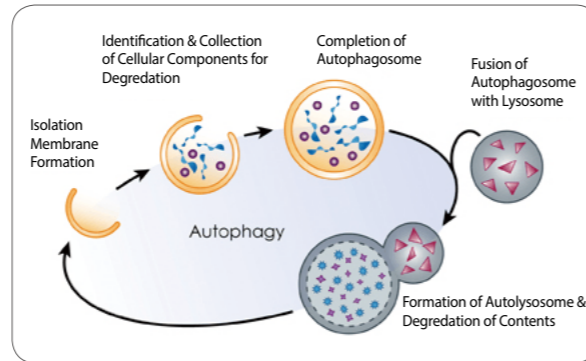
Biological Activities

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 moisturization, reduces Trans Epidermal Water Loss (TEWL) and improves the skin barrier function.

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

Sirtuin1 (SIRT1) is a nicotinamide adenine dinucleotide (NAD⁺)-dependent deacetylase functioning in the regulation of metabolism, cell survival and organismal lifespan. Active SIRT1 regulates the autophagy during cell stress, including calorie restriction, endoplasmic reticulum (ER) stress and oxidative stress.

AQUATIDE 5000 (INCI name: Hexacarboxymethyldipeptide-12), the first known peptide-derived SIRT1 activator, activates SIRT1 by direct interaction. Through this interaction **AQUATIDE 5000** increases a deacetylation of SIRT1 target protein FoxO1, resulting in the cell protective autophagy.



AQUATIDE 5000 Activates Autophagy

Normal Keratinocyte cells were treated with AQUATIDE 5000 or rapamycin for 24 hours, fixed, and labeled using anti-LC3A Ab/FITC labeled 2nd Ab/DAPI.

AQUATIDE 5000 treatment increases LC3 puncta formation (green dots) similar as rapamycin.

AQUATIDE 5000 Activates SIRT1

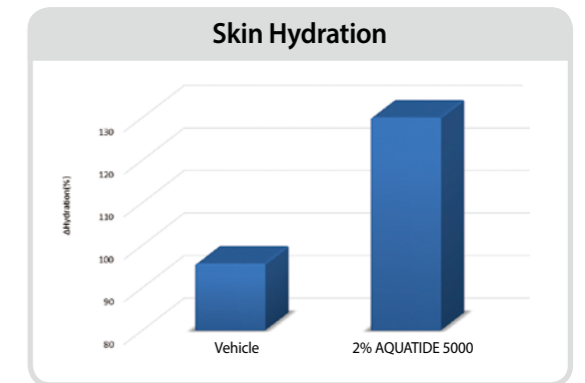
Recombinant SIRT1 and its substrates were mixed with AQUATIDE 5000 and others, and measured the deacetylation activity of SIRT1 using fluoremetric analysis.

AQUATIDE 5000 activates SIRT1 enzymatic activity.

Increases Water Retaining Activity

Six volunteers were applied with 2% AQUATIDE 5000 in PEG/EtOH solution or vehicle for 2 weeks and water retaining activity was measured using corneometer.

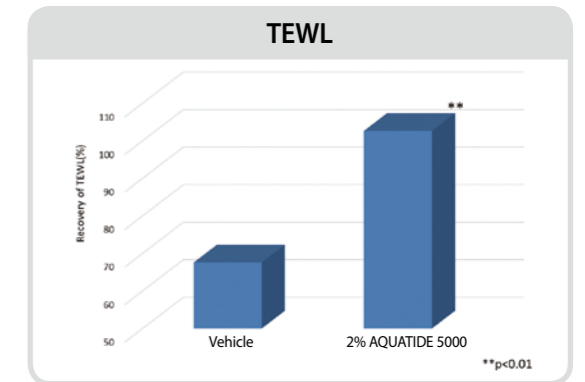
AQUATIDE 5000 shows water retaining activity and increases skin hydration.



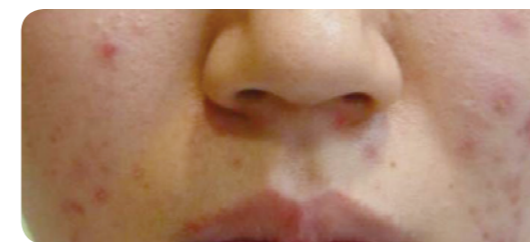
Reduces TEWL(TransEpidermal Water Loss)

Six volunteers were applied with 2% AQUATIDE 5000 PEG/EtOH solution or vehicle for 2 weeks. D-squome was removed using tape stripping, and TEWL was measured using Vapormeter.

AQUATIDE 5000 enhances the skin barrier function and prevents water loss significantly.



Improves Skin Barrier Function and Anti-ACNE Efficacy



Sixteen volunteers were applied with 1% AQUATIDE 5000 and 0.5% salicylic acid formulation for 4 weeks. Skin conditions were evaluated by dermatologist.

AQUATIDE 5000 has a strong anti-inflammatory activity, and reduces average 65% of ACNE symptoms.