

All-Round Protection

from Urban Pollution

Fight Against Primary Environmental Factors to Skin Aging

Anti-pollution is now the new MUST-HAVE in cosmetic products!



Et-VC®

3-O-Ethyl Ascorbic Acid

Benefits

- Anti-oxidation
- Scavenge free radicals
- Protect DNA from UV
- Fight photo-aging
- Stimulate collagen synthesis
- Reduce dark spots
- Even out skin tone
- Inhibit melanogenesis
- Boost natural HA synthesis (patented)
- Anti-pollution

Azeclair®



Potassium Azeloyl Diglycinate

Benefits

- Sebum regulation
- Skin brightening/ clarifying
- Lightening acne spots
- Anti-pollution

Intrinsic aging induced by internal physiological factors has become less of a concern when compared to extrinsic aging. Today environmental damages and urban lifestyle expose our skin to stronger UV and heavier pollution. Not only can pollution cause both immediate and chronic health issues but it also leads to the premature aging of skin and various skin problems, including dehydration, inflammation, lentigo (age spots) as well as increased wrinkles, eczema and acne. In major cities, traffic pollution now emerges as the most toxic substance for skin on par with the sun. Air pollution includes particulate matter (PM), nitrogen oxide (NO₂) and other chemicals, such as polycyclic aromatic hydrocarbons (PAHs).

New studies point out that both Et-VC® and Azeclair® can effectively inhibit various inflammatory cytokines and factors, oxidative stress and collagenase induced by urban dust and diesel particulate matter (DPM).

	ROS	IL-8	MMP-1	PGE2
 PM2.5 Urban Dust	↓ 77%	↓ 50% ↓ 44%	↓ 67% ↓ 51%	↓ 51%
 PM2.5 Diesel Particulate Matter	↓ 61%	↓ 47% ↓ 38%	↓ 75% ↓ 58%	

Anti-pollution

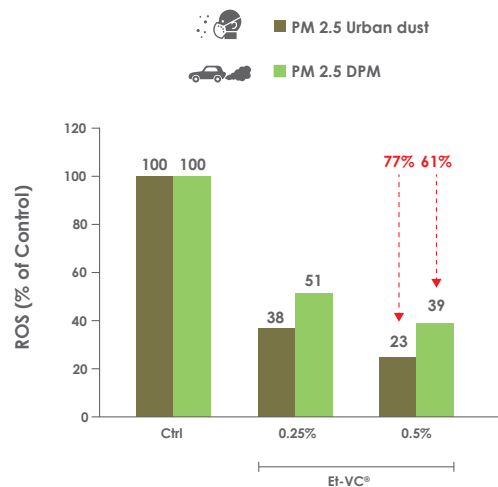
Efficacy Study

1

Radical Scavenging Test:

Inhibition of ROS

Reactive oxygen species (ROS) are formed as a natural byproduct from the innate metabolism of oxygen. However, environmental stresses, like UV and air pollution, increase ROS level dramatically and cause inflammation, leading to accelerate aging and other skin problems. Results show that Et-VC® can effectively reduce the ROS production induced by PM2.5 pollutants in human keratinocytes.

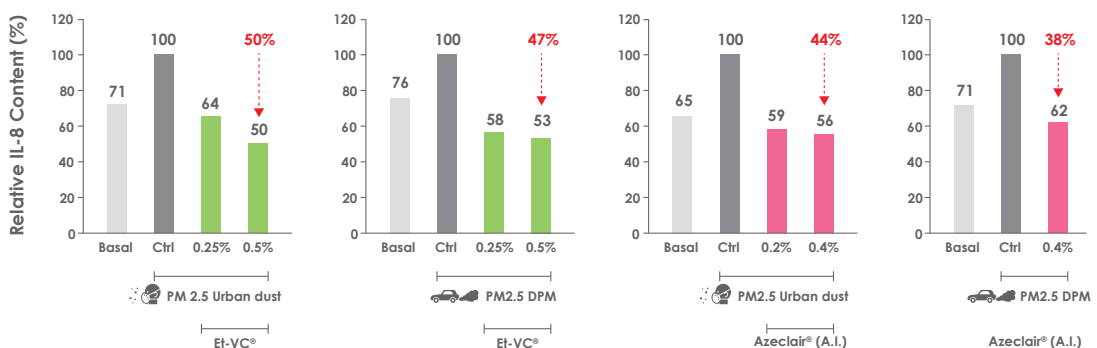


2

Anti-Inflammation Test:

Inhibition of IL-8

Air pollution induces the upregulation of an inflammatory cytokine interleukin-8 (IL-8). To understand the effect of Et-VC® and Azeclair® in preventing skin inflammation, a study was carried out to investigate the IL-8 expression induced by PM2.5 urban dust and diesel particulate matter (DPM). Results demonstrate that both Et-VC® and Azeclair® impart good efficacy in inhibiting IL-8 induced by PM2.5 pollutants in human keratinocytes.



Anti-pollution

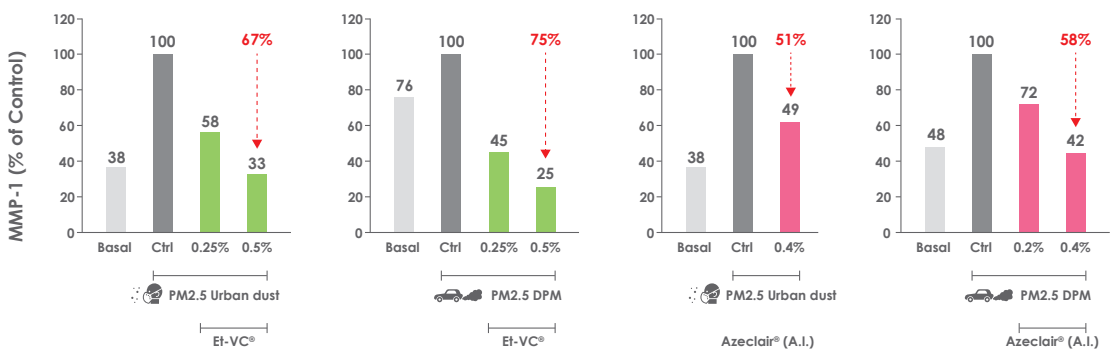
Efficacy Study

3

Anti-Inflammation Test:

Inhibition of MMP-1

Matrix metalloproteinase (MMP), also known as interstitial or fibroblast collagenase, is an enzyme involved in the breakdown of collagen types I, II, and III as well as extracellular matrix. The degradation of collagen is responsible for wrinkle formation and skin aging. A study was carried out to investigate the MMP-1 expression induced by PM_{2.5} urban dust and diesel particulate matter (DPM). Results demonstrate that both Et-VC® and Azeclair® impart good efficacy in inhibiting MMP-1 caused by PM_{2.5} pollutants in human keratinocyte.

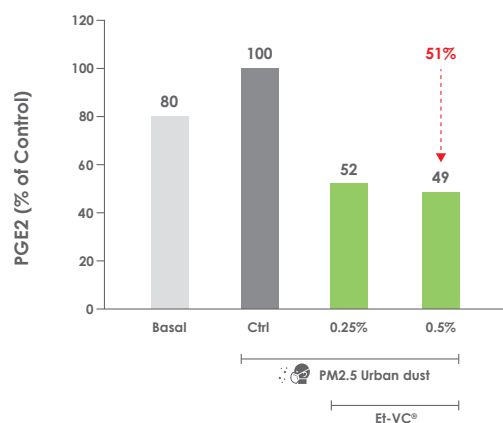


4

Anti-Inflammation Test:

Inhibition of PGE₂

An essential homeostatic factor prostaglandin E₂ (PGE₂), which acts as an inflammatory mediator in skin, inhibits collagen production by fibroblasts. A study was conducted to investigate the PGE₂ expression induced by PM_{2.5} urban dust. Results show that Et-VC® can effectively reduce the overexpression of PGE₂ caused by urban dust in human keratinocytes.



Et-VC®

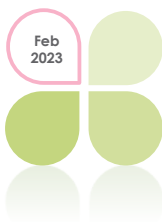
New Generation Multi-Functional Vitamin C Derivative

Azeclair®

Azelaic Acid Derivative: Oil Control Brightening Agent

Claim Ideas

- Prevent photoaging ■
- Stimulate collagen synthesis ■
- Scavenge free radicals ■
- Anti-inflammation ■ ■
- DNA protection ■
- Sun protection ■
- Even out skin tone and improve radiance ■ ■
- Anti-acne and oil control ■
- Lighten acne spots ■ ■
- Improve skin moisturization ■ ■
- Anti-glycation ■
- Pore refining effect ■ ■
- Anti-pollution ■ ■



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