

ABS Viola Tricolor Extract

Hydration + Hyaluronic Acid Synthesis + Anti-Wrinkle



Tomorrow's Vision... *Today!*[®]

ABS Viola Tricolor Extract



Technical Information:

Product Code: 10346

INCI Name: Hydrolyzed Viola Tricolor Extract

INCI Status: Approved

Suggested Use Level: 2.0 – 4.0%

Suggested Applications: Hydration, Hyaluronic Acid Synthesis, Anti-Wrinkle

Viola Tricolor: Wild Pansy



- Perennial herb with tricolored flowers
- Considered beneficial in disease of the heart – often called “Heartsease”
- Traditional herbal remedy:
 - Anti-inflammatory properties
- Viola tricolor contains:
 - Flavonoids
 - Tocopherol
 - Tannins

ABS Viola Tricolor Extract



- Modulates aquaporin activity
 - Increases the synthesis of **Aquaporin-3**
 - Involved in skin hydration, elasticity, barrier function and wound healing
- Water crosses cell membranes in 2 ways:
 - Diffusion through the lipid bilayer
 - Through water channels, called aquaporins
- Aquaporins
 - Membrane pore proteins
 - Function as channels to increase permeability of water
 - Additional mechanism of water transport (besides osmosis)
 - Synthesized by human keratinocytes -means to enhance the moisture of the skin – increases osmosis between the dermis & stratum corneum

ABS Viola Tricolor Extract: What is it?



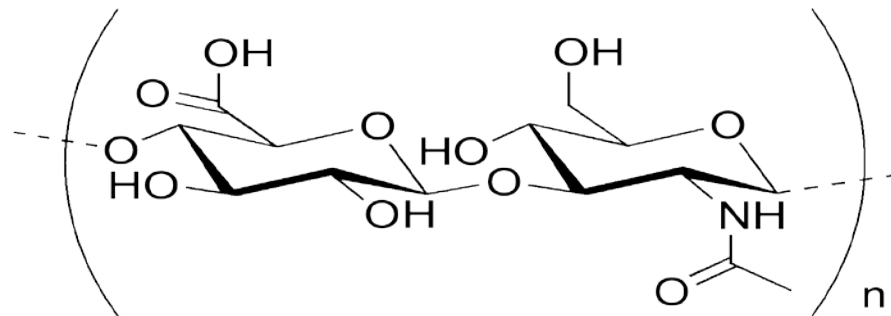
- Natural, Active Botanical
- Rich in Polysaccharides:
 - Strong water holding capacity
 - Improves epidermal moisture
- Functions:
 - Powerful Hydration
 - Anti-Aging
 - Anti-Wrinkle
 - Hyaluronic Acid Synthesis



ABS Viola Tricolor Extract: How does it work?



- Increases synthesis of Aquaproins-3
- Increases synthesis of Hyaluronic Acid (HA)
- Increases proliferation of receptor sites (CD22) that bind HA
- Increases production of protease (Hyaluronan Synthase-2) necessary for HA production



Efficacy Data



- ***In-vivo***

- ❖ Increase in Hydration
- ❖ Increase in Long Term Hydration
- ❖ Changes in Wrinkle Characteristics



- ***In-vitro***

- ❖ Aquaporin-3 Synthesis
- ❖ Increase in CD44 Receptor Sites
- ❖ Hyaluronic Acid Production
- ❖ Production of Hyaluronin Synthase-2

In- vivo Efficacy: ABS Viola Tricolor Extract

Increase in Hydration

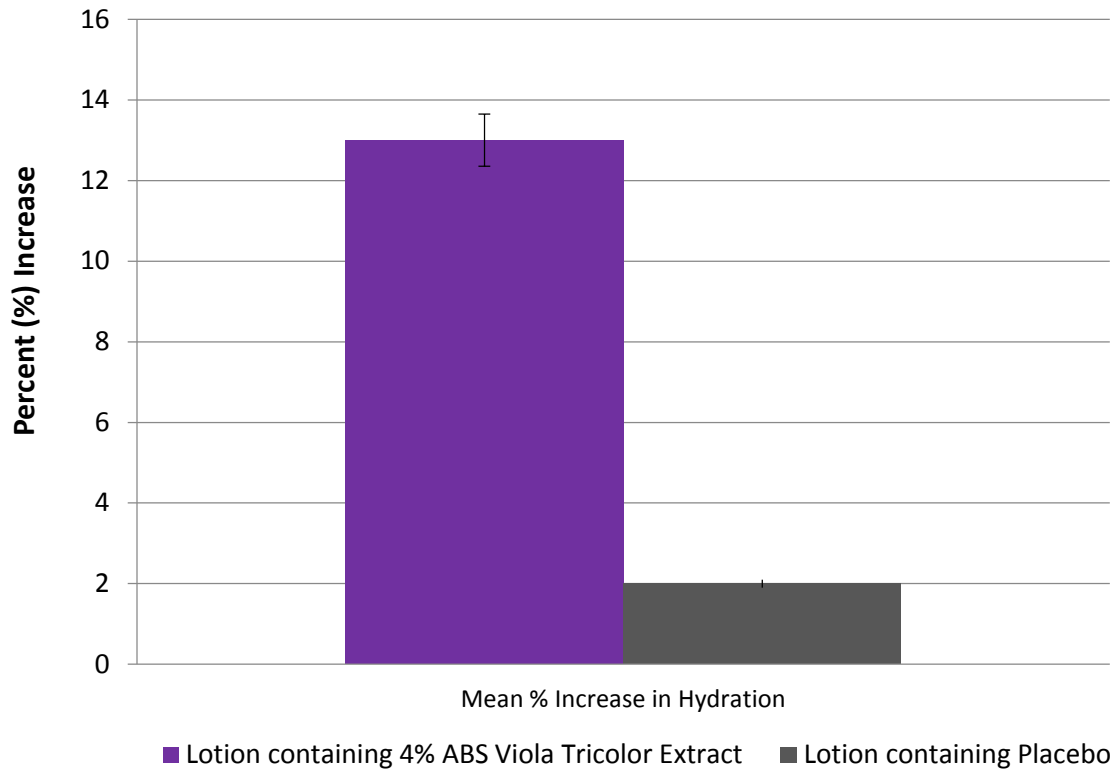


Figure 1: Hydration Results Comparing 4% **ABS Viola Tricolor Extract** and Placebo.



Protocol

- **Equipment:** Corneometer
- **Principle of measurement:** Frequency probe -measured electric capacitance of the skin based on the ability of intercellular water levels of the stratum corneum to conduct electrons
- **Subjects:** 25 (f)
- **Test area:** Calf region of leg

In- vivo Efficacy: ABS Viola Tricolor Extract

Increase in Long Term Hydration

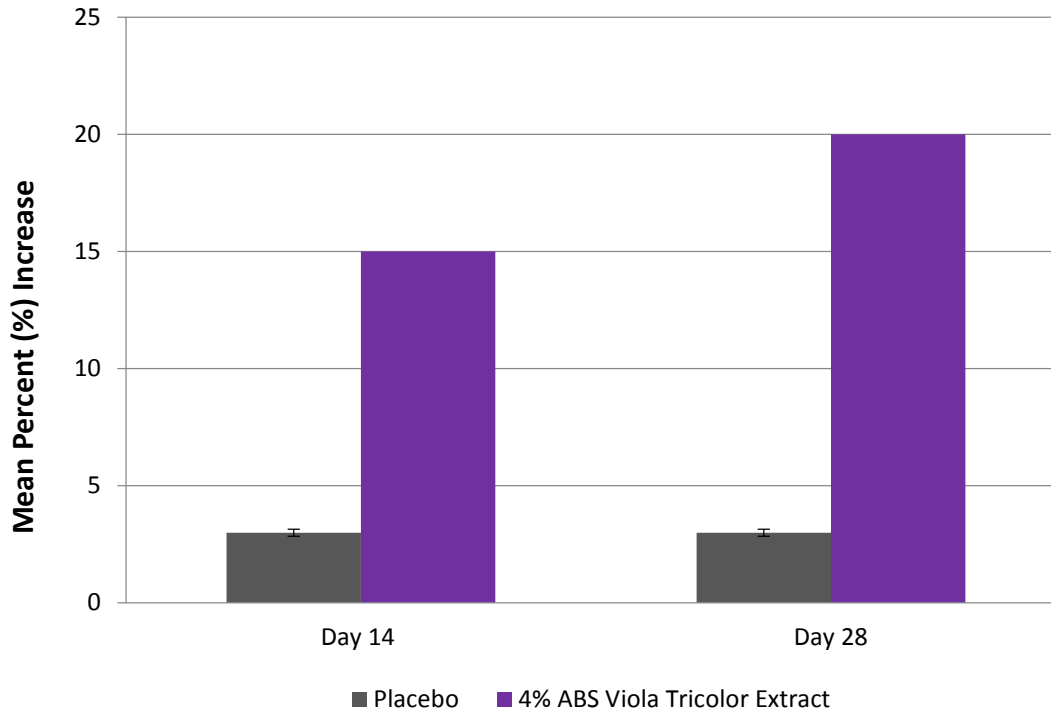


Figure 2: Hydration Results Comparing 4% **ABS Viola Tricolor Extract** and Placebo.



Protocol

- **Equipment:** Corneometer
- **Principle of measurement:** Frequency probe -measured electric capacitance of the skin based on the ability of intercellular water levels of the stratum corneum to conduct electrons
- **Subjects:** 25 (f)
- **Test area:** Calf region of leg; zones measured after 14 & 28 days

In- vivo Efficacy: ABS Viola Tricolor Extract

Mean Changes in Wrinkle Characteristics

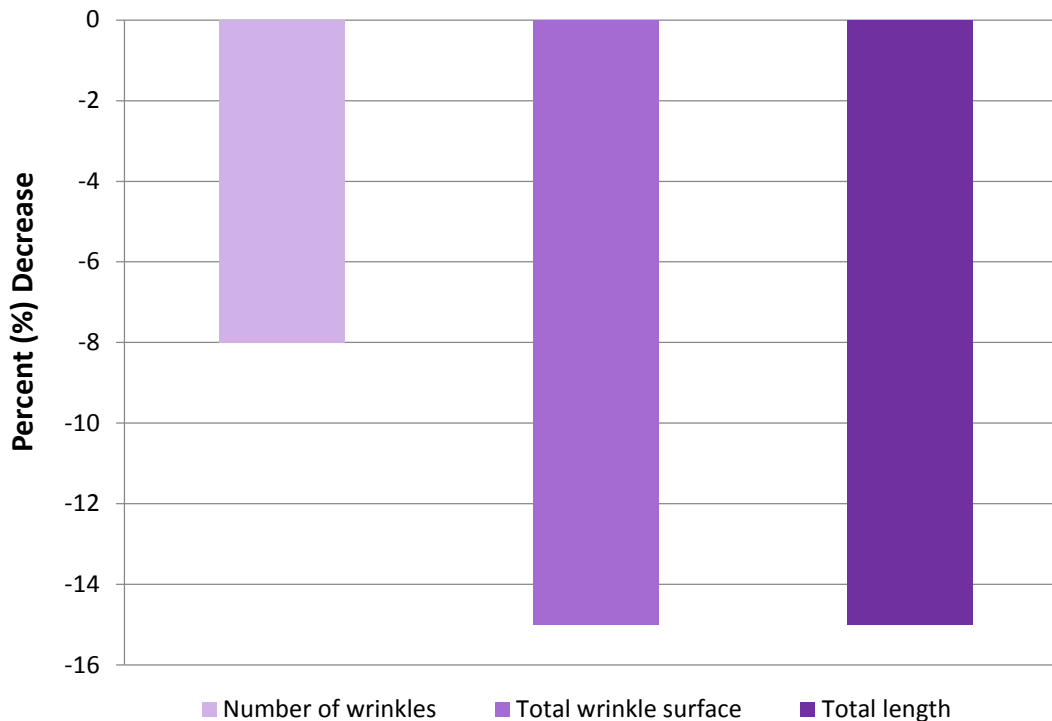


Figure 3: Mean changes in wrinkle characteristics using 4% **ABS Viola Tricolor Extract**.



Protocol

- **Equipment:** Silicone Molds
- **Principle of measurement:** Profilometer equipped with an image analyzer
- **Subjects:** 25 (f)
- **Test area:** Outer eye area

In- vitro Efficacy: ABS Viola Tricolor Extract

Aquaporin-3 Synthesis

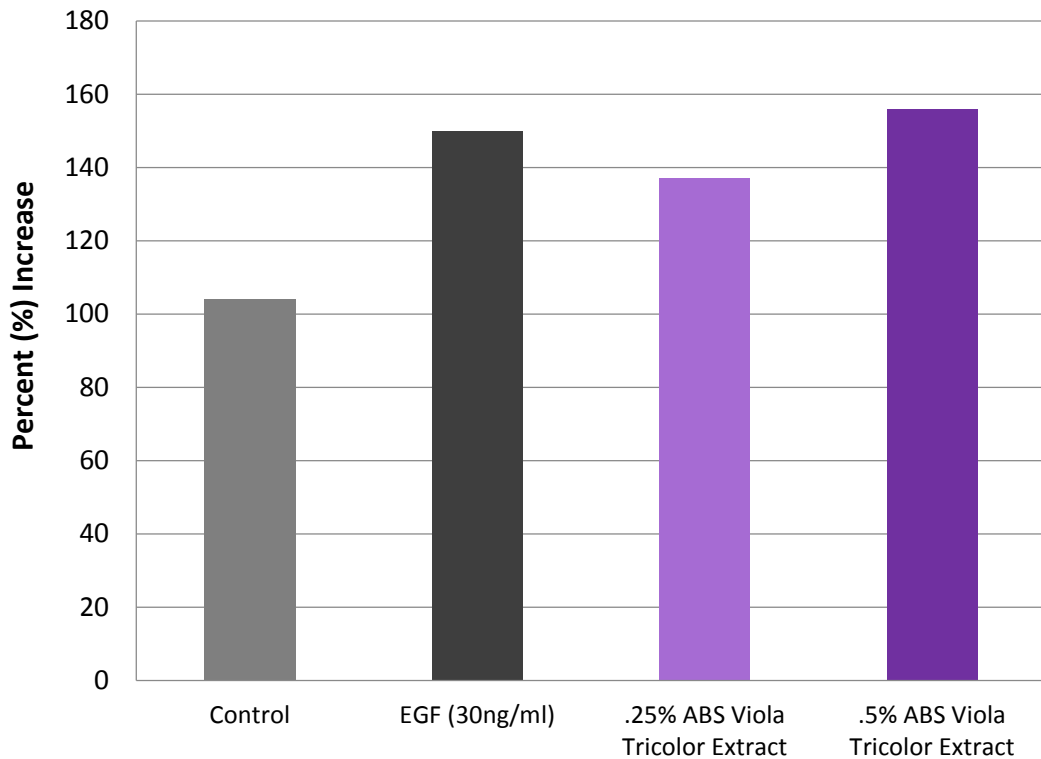


Figure 4: Aquaporin-3 production comparing **ABS Viola Tricolor Extract**, control and EGF.



Protocol

- Human keratinocytes were cultured & in KSM medium & incubated for 24 hours @ 37C with CO2 levels limited to 5.0%
- Image analysis was performed with BIO Profil Software
- The visible bands were then quantified using densitometry

In- vitro Efficacy: ABS Viola Tricolor Extract

Increase in CD44 Receptor Sites

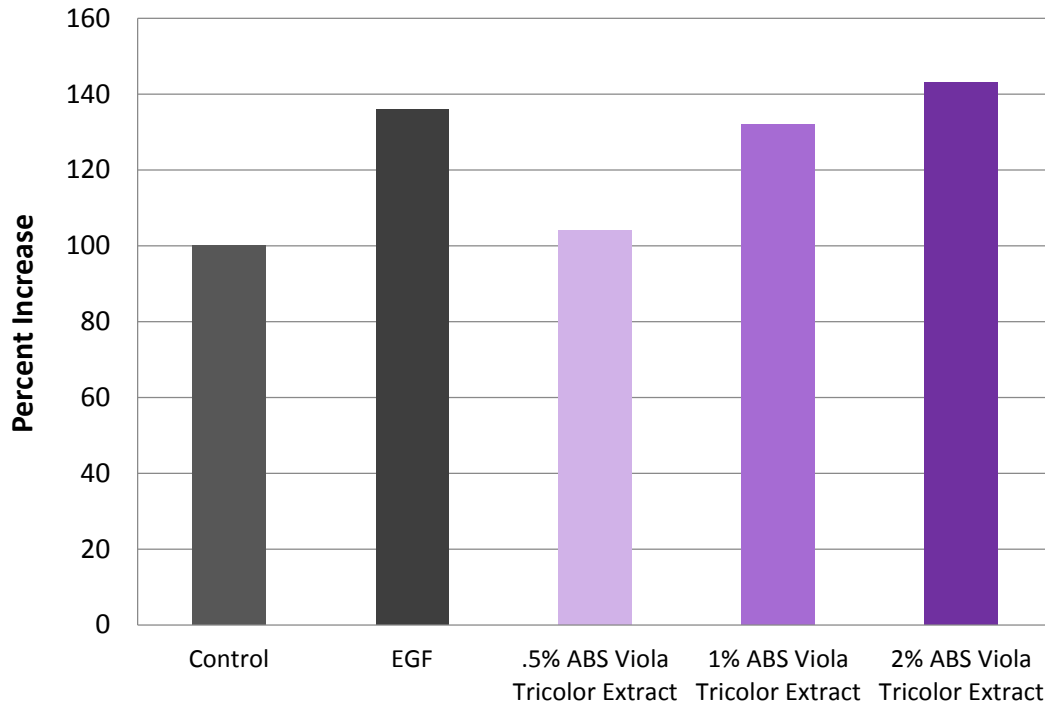


Figure 5: Results of the increase in CD44 following treatment with test materials.



Protocol

- Immunolabeling of human keratinocytes was performed after a 72-hour incubation period
- Keratinocytes were then incubated for an additional 45 minutes @ 4C with the anti-CD44 immunoglobulin
- A second antibody with luminescent flag was used to identify the immunolabeled cells
- A quantification of florescence was performed on 10 cells

In- vitro Efficacy: ABS Viola Tricolor Extract

Hyaluronic Acid Production

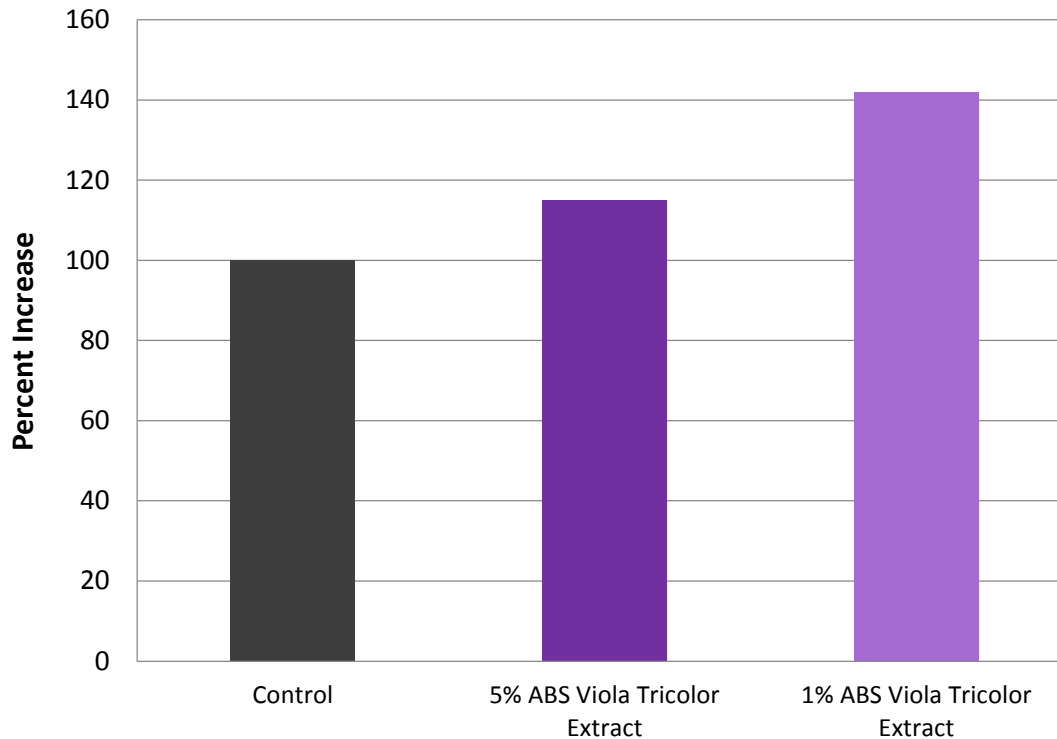


Figure 6: Hyaluronic Acid Production comparing **ABS Viola Tricolor Extract** and Control.



Protocol

- Human keratinocytes were cultured & in KSFM medium & incubated for 24 hours @ 37C with CO2 levels limited to 5.0%
- The keratinocytes were then treated with **ABS Viola Tricolor Extract** in a diluted culture medium. The cells were then incubated under the same conditions for 72 hours.
- The cultured supernatant was stored at -80C before the assay was performed – ELISA kit was used

In- vitro Efficacy: ABS Viola Tricolor Extract

Increase in mRNA Synthesis

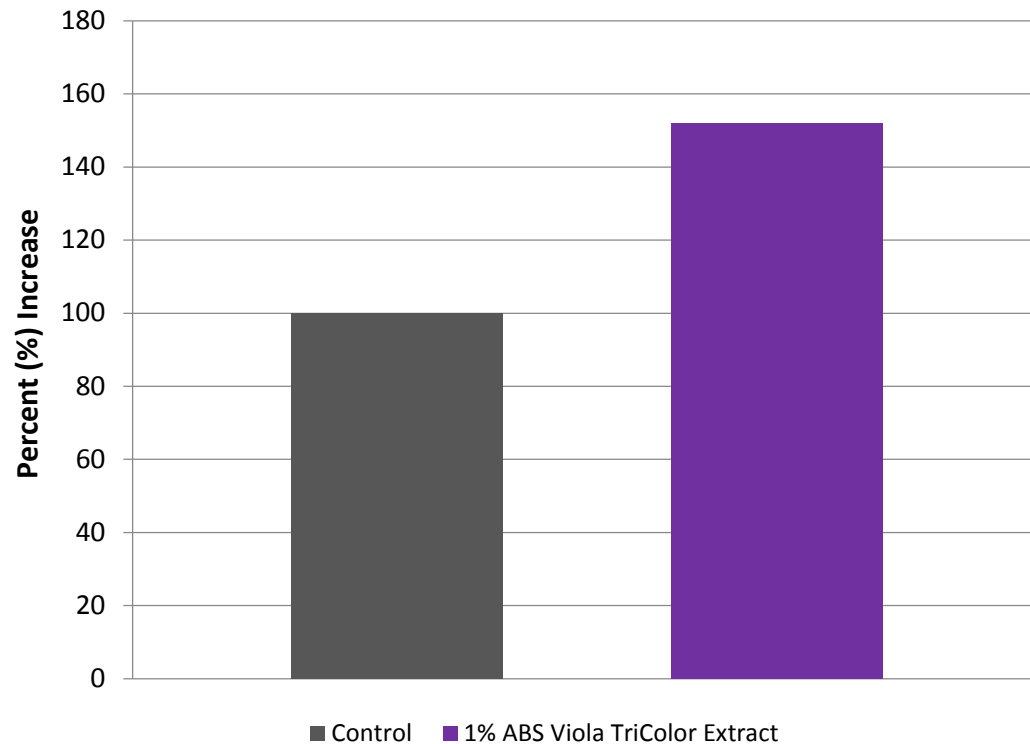


Figure 7: Increase in MRNA comparing 1.0% **ABS Viola Tricolor Extract** and Placebo



Protocol

- Human keratinocytes were cultured & in KSM medium & incubated for 24 hours @ 37C with CO2 levels limited to 5.0%
- The total RNA was then extracted from the cells & reverse transcriptase was used to obtain the DNA sequence analyzed by PCR
- Internal standard - β -actin mRNA
- Band intensity was quantified by image analysis - BIO profil system

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ACTIVE CONCEPTS LLC



THANK YOU

For more information –Visit our website!

www.activeconceptsllc.com