DC Antiglycagen

INCI: Water, Humic Acids, Butylene Glycol, Olea Europaea (Olive) Fruit Extract

November 15, 2010 rev.

Collagen and Elastin Protection for Younger Looking Skin

Glycation, sometimes referred to as the Maillard reaction, is a process typically associated with aging and oxidative damage in which certain sugar molecules chemically bond to proteins or lipids without the moderation of an enzyme. When glycation occurs in the skin, it causes the crosslinking of collagen and elastin resulting in a loss of skin flexibility, elasticity and resilience, thus causing skin aging and wrinkles. In addition, glycation leads to the production of harmful substances known as *advanced glycation end products* (AGEs). AGEs are one of the primary causes of cellular aging. They are highly reactive free radicals and oxidizers which further the glycation process and initiate harmful inflammatory and autoimmune responses.

DC Antiglycagen is an anti-aging ingredient specially designed to help protect collagen and elastin against glycation and its damaging by-products. By fighting off AGEs, DC Antiglycagen helps restore skin smoothness, elasticity and helps heal dry, damaged skin. Rich in trace minerals, phytonutrients and natural ultra-powerful anti-oxidants (verbascoside and humic acid), DC Antiglycagen is a safe and effective means to protect the skin from premature aging and environmental stressors such as UV radiation, pollution and chemical irritants.

BENEFITS

- Anti-aging
- Anti-irritant
- Antioxidant
- Firming
- Nourishing
- Protective against sugar related cell damage and aging

APPLICATIONS

- Wrinkle reduction
- Anti-acne
- Diabetic skin treatments
- Daily protection
- Sun care
- Sensitive skin

TYPICAL PROPERTIES

Appearance	Light brown to dark Brown liquid/gel
Odor	Characteristic
pH	3.0-5.0 (25% aqueous solution)
Specific Gravity	0.990 – 1.150

FORMULATION GUIDELINES

Recommended Use Level	1.0%

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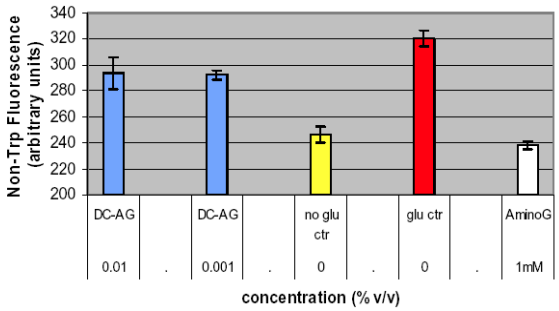
FIRMING EFFECT

Glycation-derived albumin fluorescence used to measure efficacy against glycation

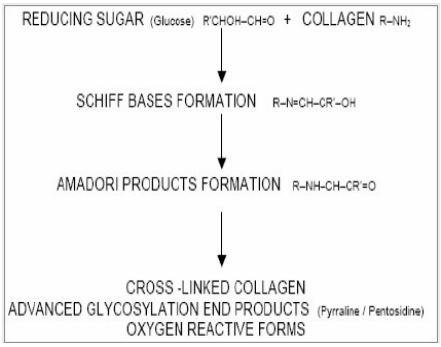


DC Antigylcagen inhibited protein glycation by 39%. This activity is remarkable considering the low concentration range of DC Antigylcagen.

Methods

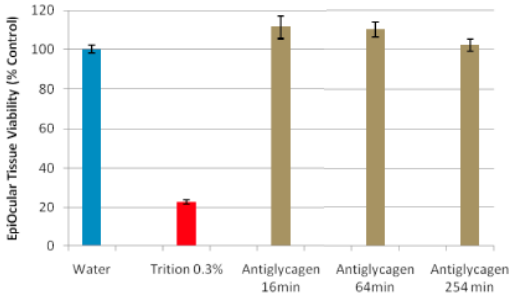
- Each reaction mixture contains 10mg/ml albumin (Sigma) in PBS with 500mM glucose (Sigma G8270) in PBS.
- *Negative control*is 10mg/ml albumin without glucose. *Positive control* is 10mg/ml albumin with 500mM glucose and 1mM aminoguanidine hydrochloride (Sigma 396494)
- Samples are incubated with the reaction mixture for 10 days at 370C in 5% CO2 atmosphere after what protein glycation is detected by measuring the increase of non-tryptophan fluorescence (excitation at 360nm) using microplate fluorometer Cytofluor2350 (Millipore), according to Argirovaand Argirov, 2003 with modifications.

MAILLARD REACTION



OCCULAR IRRITATION

Quantification by absorption of extracted formazan at 550nm with 660nm background substraction, as compared to watertreated control (100%).



Note that the positive control (Triton 0.3%) caused a 77% decrease in EpiOcular tissue viability, while Antiglycagen registered no viability decrease at all time intervals.

PHOTOTOXICITY ASSESSMENT

Figure 1.

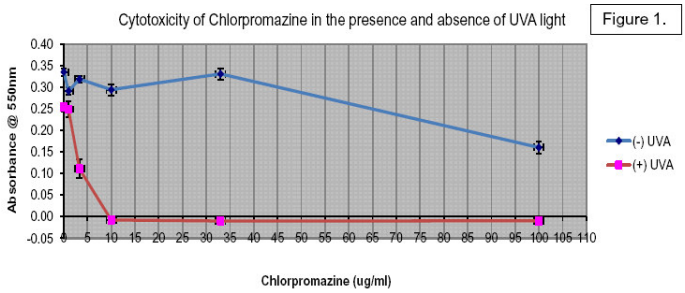
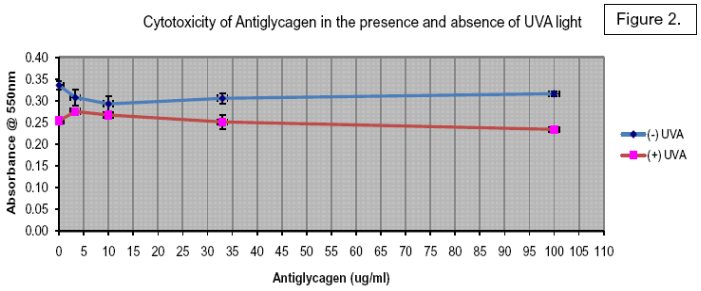


Figure 2.



Incubation of cells with chlorpromazine resulted in cytotoxicity, yielding the photo-irritancy factor (PIF) of 33. In contrast, incubation of cells with Antiglycagen showed no statistically significant difference in cell viability as compared with control, both in the presence and absence of UV light and therefore there was no PIF. Thus it may be concluded that Antiglycagen has no phototoxic potential *in vitro*, and phototoxicity *in vivo* may be considered unlikely

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