

*Product for anti-oxidant effect*

# White Tea Extract

the garden of  
**naturalsolution**  
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# Plant Story

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**White Tea** is generally made by young or minimally processed leaves of the *C. sinensis* plant. Distinguished from other teas of the *C. sinensis*, white tea is not fermented or oxidized. White tea does not require any panning, rolling, or shaking processes. It has a flavor characterized as “lighter” than green tea and black tea. In spite of its name, brewed white tea is pale yellow, and tastes milder, sweeter, and fresher than its siblings.

# Plant Story

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White tea is grown in the region around Fuding and Zhenghe in the province of Fujian, China and is usually picked by hand. White tea is one of the oldest teas we know and is probably the one for which the processing method remained unchanged for the longest time.

There are three major grades of white tea. The noblest and the highest grade is **Bai Hao Yin Zhen**, also known as silver needle tea or white hair silver needle tea. White hair silver needle tea contains only buds. The name describes the tea, needle-shaped covered with tiny white hairs.

# Plant Story

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Bai Mu Dan, also known as white peony tea, comes in several variations, with buds and 1-3 open leaves. The name comes from the fact that when Bai Mu Dan is brewed, the green leaf and silver center bud will open, and it looks like a white peony. Shou Mei, also known as longevity eyebrow, includes larger leaves and no buds. It has a stronger flavor than other white teas. The white tea we used for our product is Bai Hao Yin Zhen (silver needles) grown in Fuding in the province of Fujian, China.



## Plant Story: Medicinal Uses

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**White tea** is well known for lowering body heat as it has the cold characteristic. This character derived from the tea production process because the heating process is not in the procedure. So, it is recommended to drink white tea for people with lots of body heats. Moreover, white tea has beneficial active ingredients for an **anti-aging** effect. These active ingredients suppress the elastase and collagenase which attack skin fiber tissues. In research, the researchers found that applying white tea extract to the skin helped to **prevent the harmful influences of UVB**.



## ***in vitro* Efficacy Evaluation**

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### ❖ **Anti-oxidant Effect**

ROS Generation Inhibition Activity

## **Reference Article**

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### ❖ **UV-induced Damage Protection Effect**

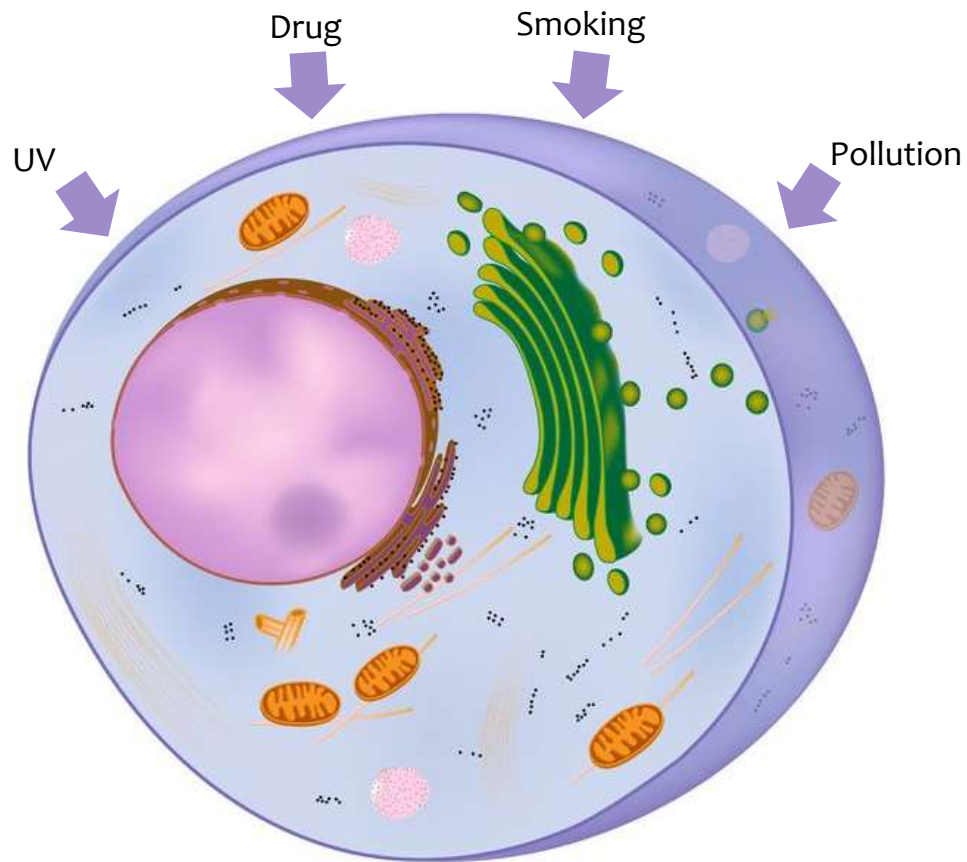
Prevention of CD1a+ cells depletion

Prevention of 8-OHdG generation



# Oxidative Stress

Reactive Oxygen Species (ROS) can be increased by



Intracellular ROS may induce

- DNA damage
- Lipid peroxidation
- Amino acid oxidation: protein damage
- Oxidation of co-factors: enzyme inactivation
- Chronic inflammation

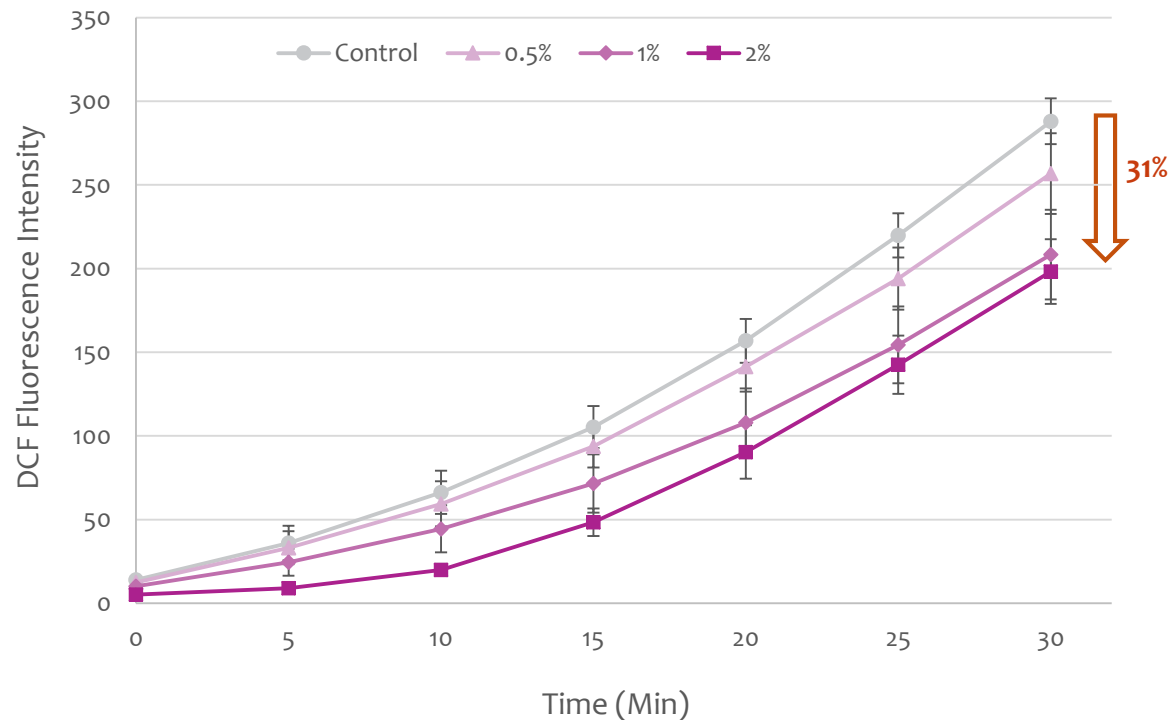
ROS



Skin Aging  
Inflammation

# in vitro Efficacy Evaluation: Anti-oxidant Effect

## ROS Generation Inhibition Activity

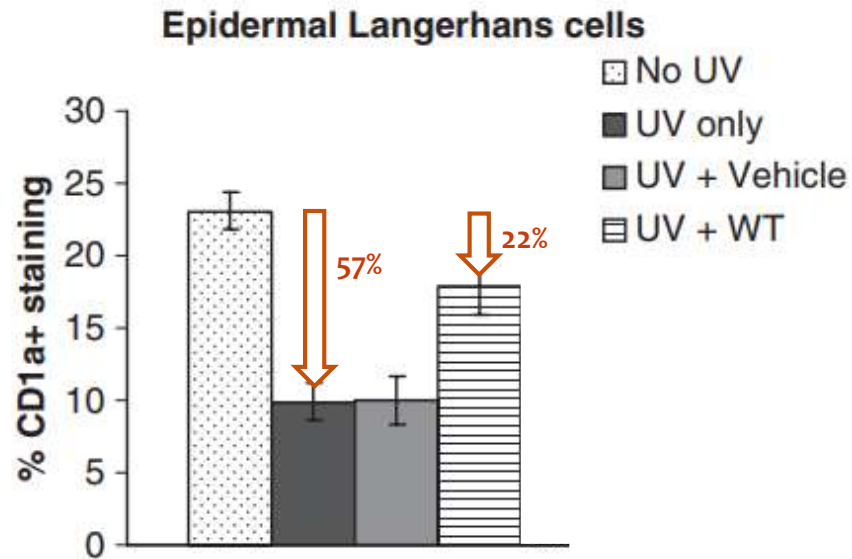


The **anti-oxidant** property of **White Tea Extract** has been identified by measuring the decrease of DCF Fluorescence in the **Reactive Oxygen Species (ROS)** content produced in cells. As a result, it showed **31% decrease** in the ROS production at **2% of White Tea Extract**.



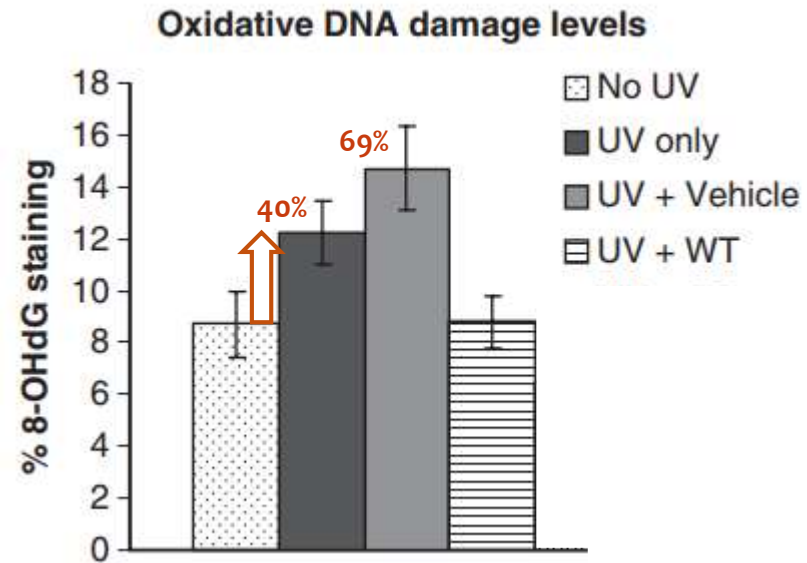
# Research Study: UV-induced Damage Protection

## Prevention of CD1a+ cells depletion



The volunteers' biopsies obtained 72 h after a single simulated solar radiation (SSR) irradiation showed mean percentage of decreased epidermal CD1a+ Langerhans cells (LC). White tea (WT) application 15 min prior and immediately after irradiation partially prevented SSR-induced LC depletion.

## Prevention of 8-OHdG generation



Oxidative damage was measured via levels of 8 OHdG (8-hydroxy-2'-deoxyguanosine) staining in skin biopsies obtained 72 h after SSR irradiation. 8-OHdG levels in white tea (WT)-treated skin were not different from control unirradiated skin.

➤ White Tea Extract treated skin is protected by ssUVR (solar-simulated ultra violet radiation)

Topical application of green and white tea extracts provides protection from solar-simulated ultraviolet light in human skin, Camouse et al., Experimental Dermatology, 2009, pages 522-526

## Product Information

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- Product Name: White Tea Extract-GS, White Tea Extract(PD)-RSPO, White Tea Extract-PG
- INCI Name: Camellia Sinensis Leaf Extract
- Dosage: 1 – 3%
- Formulation: Add to the formulation when the temperature is lower than 55°C. Recommended to add after the cooling process.
- Storage: Avoid direct light or UV.  
Keep it in a dry area at room temperature.

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