



## Hypochlorous Acid as a Treatment for Skin Cancer

Snell J., Jandova J., Wondrak G. "Hypochlorous Acid: From Innate Immune Factor and Environmental Toxicant to Chemopreventive Agent Targeting Solar UV-Induced Skin Cancer." *Frontiers in Oncology*, 29 April 2022. Southwest Environmental Health Sciences Center. Summary by Devin Ritter.

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Hypochlorous acid could be applied to skin to target and prevent nonmelanoma skin cancer. In this study, researchers found that the application of hypochlorous acid to mice blocked inflammation and tumor progression caused by solar UV exposure.

Hypochlorous acid is a compound commonly found in skincare products. It also exists naturally in your body. It is created by white blood cells, and acts as a defense against bacteria and infection. It helps kill bacteria on your skin, speed up healing of shallow cuts, and fight inflammation from conditions like eczema. Research shows that hypochlorous acid is beneficial for your skin. However, using too much hypochlorous acid on your skin can have negative effects, causing irritation and sensitivity. Hypochlorous acid can also cause tissue damage in places where skin is already inflamed.

Hypochlorous acid is used to treat drinking water and to disinfect swimming pools. Recent research suggests that exposure to hypochlorous acid in swimming pools, when combined with solar UV exposure, can be harmful to people. These factors combined may contribute to more sun damage in people who have been exposed to both, rather than UV alone. It is important to study this effect further in order to control and prevent chlorination stress caused by excessive exposure to hypochlorous acid. When used appropriately in small amounts, hypochlorous should not cause damage to your skin.

Your skin is one of the most important barriers to protect you from physical, chemical, and microbial stressors, which is why it is essential to take care of it. Your skin, and its cellular components, can be impacted by environmental factors. One such factor to avoid is harmful UV exposure. While some wavelengths of UV can be beneficial to your skin (by helping your body produce vitamin D) other UV wavelengths are very harmful and can cause cancer.

### Meet the Researchers

Georg Wondrak is a member of the University of Arizona Cancer Center and a Professor of Pharmacology and Toxicology. His drug discovery research program examines different causes of skin cancer and sun damage.

Links: <https://doi.org/10.3389/fonc.2022.887220>



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