

Abstract from Medical Expert Reports

University Dermatology Clinic Tübingen (Prof. Dr. med. Mark Berneburg)

Study: "Efficacy of prototypes of UV filter films on mutations of the mitochondrial DNA".

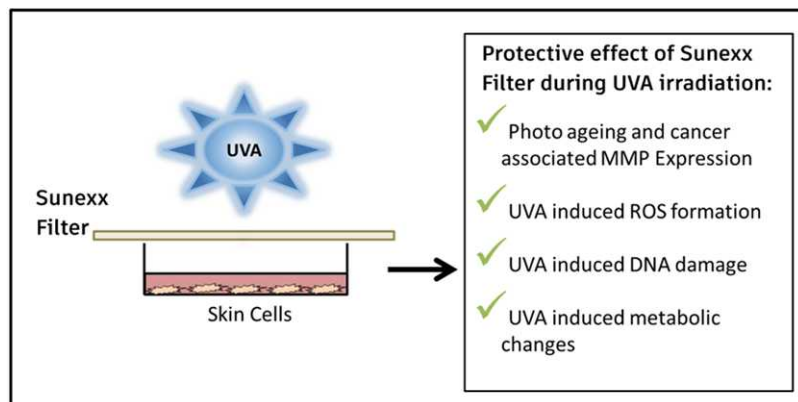
Result: The different HelioVital filter films protect, depending on their type and transmission spectrum, very efficiently to highly efficiently against UVA radiation-induced mutations of mitochondrial DNA in skin cells, which are known to play a causal role in skin aging.

Clinic and Polyclinic for Dermatology of the University Hospital Regensburg and Interdisciplinary Skin Cancer Center Upper Bavaria (Prof. Dr. med. Mark Berneburg):

Study: "Investigation of the protective effect of UV filters on skin cells"

Protective effect of the UV films against UVA induced:

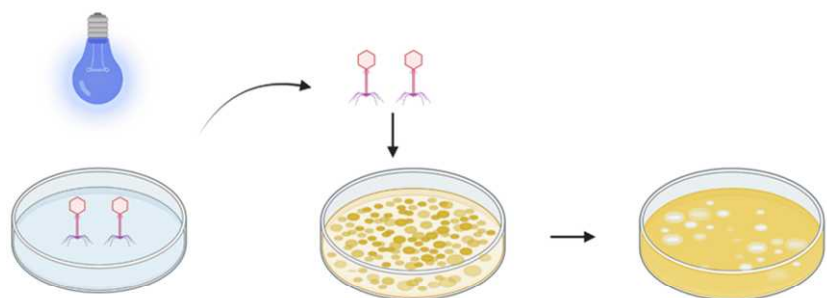
- changes in cell viability and cell size
- expression of matrix metalloproteinases MMP
- radical oxygen species (ROS)
- formation of the 8-oxoguanosine (8OHdG)
- common deletion of mitochondrial DNA (4977 bp deletion of mtDNA)
- damage of DNA including double and single strand breaks
- metabolic changes



Result: The Sunexx film can significantly reduce the damaging effects of UVA to skin cells like photoaging and carcinogenesis (MMP expression, ROS formation, DNA damage and metabolic changes). In summary, UVA-induced cellular damage can be significantly reduced, in some cases, through the use of the films.

Study: "Investigation of the antiviral qualities of UVB irradiation filtered with Sunexx filter foils or Sunexx filter glasses in a bacteriophage bacteria system"

Result: "we treated viruses with UV irradiation, filtered by Sunexx foils/glasses and showed with our modified plaque assay, that UV irradiation filtered by Sunexx filters does have significant antiviral effects... we found that UVB irradiation, which passes through basic filters, m06 filters as well as L23 filters have virocid effects on MS2 phages..."



Further medical studies by:

- Prof. Dr. med. Peter Wolf, University Clinic for Dermatology and Venerology in Graz/Austria
 - proDERM GmbH, Institute for Applied Dermatological Research, Hamburg
 - Prof. Dr. Fritz-Albert Popp, International Institute of Biophysics, Neuss