



A service of the National Library of Medicine
and the National Institutes of Health

My NCBI
[\[Sign In\]](#) [\[Regis\]](#)

All Databases PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Book

Search PubMed

for

Go

Clear

Limits

Preview/Index

History

Clipboard

Details

Display

Abstract

Show

20

Sort by

Send to

All: 1

Review: 0



About Entrez
NCBI Toolbar

Text Version

Entrez PubMed

Overview
Help | FAQ
Tutorials
New/Noteworthy
E-Utilities

PubMed Services

Journals Database
MeSH Database
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
Special Queries
LinkOut
My NCBI

Related Resources

Order Documents
NLM Mobile
NLM Catalog
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central

1: [J Cosmet Sci.](#) 2003 Nov-Dec;54(6):589-98.

[Related Articles, Links](#)

Bioconvertible vitamin antioxidants improve sunscreen photoprotection against UV-induced reactive oxygen species.

[Hanson KM](#), [Clegg RM](#).

Laboratory for Fluorescence Dynamics, Department of Physics, University of Illinois, Urbana-Champaign, Illinois, USA.

The ability of sunscreens and antioxidants to deactivate highly destructive reactive oxygen species in human skin has remained inconclusive. Two-photon fluorescence imaging microscopy was used to determine the effect of sunscreen/antioxidant combinations upon UV-induced ROS generation in ex vivo human skin. A sunscreen combination containing octylmethoxycinnamate (Parsol MCX) and avobenzone (Parsol 1789) at SPF 8 and SPF 15 was tested for its ability to prevent UV radiation from generating ROS in the viable epidermal strata of ex vivo human skin. A UV dose equivalent to two hours of North American solar UV was used to irradiate the skin. Each sunscreen reduced the amount of ROS induced in the viable strata by a value consistent with the SPF level. UV photons that were not absorbed/scattered by the sunscreen formulations generated ROS within the viable epidermal layers. The addition of the bioconvertible antioxidants vitamin E acetate and sodium ascorbyl phosphate (STAY-C 50) improves photoprotection by converting to vitamins E and C, respectively, within the skin. The bioconversion forms an antioxidant reservoir that deactivates the ROS generated (within the strata granulosum, spinosum, and basale) by the UV photons that the sunscreens do not block in the stratum corneum.

PMID: 14730375 [PubMed - indexed for MEDLINE]

Display Abstract

Show 20

Sort by

Send to

[Write to the Help Desk](#)

[NCBI](#) | [NLM](#) | [NIH](#)

[Department of Health & Human Services](#)

[Privacy Statement](#) | [Freedom of Information Act](#) | [Disclaimer](#)

Feb 6 2006 04:30:54