

**Photoprotective properties of a hydrophilic extract of the fern
Polypodium leucotomos on human skin cells.**

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The effect of a hydrophilic extract of the fern *Polypodium leucotomos* (PLE) has been investigated in terms of photoprotection against UV-induced cell damage. PLE efficiently preserved human fibroblast survival and restored their proliferative capability when the cells were exposed to UVA light. This effect was specific and dose-dependent. Photoprotection was not restricted to fibroblasts, as demonstrated by its effect on survival and proliferation of the human keratinocyte cell line HaCat. Finally, treatment of the cells with PLE prevented UV-induced morphological changes in human fibroblasts, namely disorganisation of F-actin-based cytoskeletal structures, coalescence of the tubulin cytoskeleton and mislocalization of adhesion molecules such as cadherins and integrins. Our in vitro results demonstrate the photoprotective effect of PLE on human cells and support its use in the preventive treatment of sunburning and skin pathologies associated with UV-mediated damage.

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