

## Relationship between Production of Active Oxygens from Porphyrins and Aging of Skin

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Basic experimental studies on production of active oxygens from porphyrin compounds by UV irradiation in relation to aging of the skins were carried out.

Detailed conditions in analytical methods with electron spin resonance (ESR) for species and intensity of the active oxygens were examined. Production of hydroxyl radical was observed from only uroporphyrins at pH7.8. Singlet oxygen was produced more from coproporphyrins than others at the same pH. Production of superoxide anion was shown from uroporphyrins and coproporphyrin III after 120s. of the UV irradiation.

It was shown clearly with two UV-cut filters that hydroxyl radical from uro- and coproporphyrins and singlet oxygen from coproporphyrins were produced by UV-A from a xenon lamp having a similar spectrum from sunlight.

In blood of rats administrated orally with griseofluvin for one week, which is an inducer of protoporphyria, the concentration of protoporphyrin IX was increased twice, but any active oxygens from this porphyrin were not detected.