PORPHYDERM AT A GLANCE

The increased incidence of skin cancer demands increased research to discover new strategies for prevention and therapy. A relatively new method of early therapy in skin pathology is photodynamic therapy which has the ability to eliminate (pre)malignant skin formations by triggering an oxidative burst as a result of the targeted activation of a photosensitizer. Photodynamic therapy has minimal adverse effects, and, unlike radio- or chemotherapy, can be repeated safely to achieve increased effectiveness.

The PORPHYDERM project has finally generated two innovative, stable, and biocompatible porphyrin photosensitizers with good absorption at the skin level, which, unlike the most used commercial photosensitizer, do not require metabolization for exerting a photodynamic effect. Selected photosensitizers were incorporated into pharmacologically-accepted gels for topical application. A protocol was developed in animal model, combining photodynamic therapy for reducing (pre)malignant formations with redox modulation to heal potential photodynamic therapy-induced lesions in the surrounding healthy skin.

In addition to technological progress for the benefit of patients, dermatologists and the health system, the project supported the excellent research activity of team members, especially young researchers who had the opportunity to develop their scientific careers and be involved in international collaborations that will facilitate the further development of the medical solution proposed in the project.