



Technology Opportunity, Ref. No. UZ-23/381

New Treatment Approach for Pityriasis Rubra Pilaris

Pityriasis Rubra Pilaris patients have been treated successfully with an IL-1 receptor antagonist. Underlying is the observation that interleukin-1 plays a so far unknown role in this rare disease.

Keywords Pityriasis Rubra Pilaris (PRP), interleukin-1

Inventors Antonios Kolios, Department of Dermatology, University Hospital Zurich, Emmanuel Contassot, Department Biomedicine, University of Basel

Reference in preparation

Background PRP is a rare inflammatory skin disease phenotypically presenting features within the spectrum of psoriasis and atopic eczema. The pathogenesis is not fully understood. An activation of the interleukin (IL)-23 T-helper (Th) 17 axis has been observed, but there is a large patient-per-patient variability. A number of treatment modalities has been tested, including for example dosing of retinoids, metedextrate, or TNF-a blockers. Overall, however, no unitary, consistently effective therapy for PRP exists. Efficacy ranges of currently known therapies are as low as 40 – 60%.

Invention The invention proposes the use of biomolecules that target the interleukin-1 / interleukin-1 receptor interaction for the treatment of PRP. The invention is expected to achieve a fast resolution of PRP over 6-12 weeks directly after onset of symptoms (50% improvement in 2 weeks). As interleukin-1 provides an upstream interference in the disease pathogenesis, esp. keratinocytes, which could be the driving cause by producing CCL20, a more consistent therapeutic effect is expected from blocking IL-1 compared to modulators of the further downstream adaptive immune system such as IL-17 or IL-23. Currently available proof-of-concept data obtained with an interleukin-1 receptor antagonist include in vitro experiments and data from at least two patients. The involvement of IL-1a and IL-1b is shown on a cohort of currently at least 13 patients. The approach is directed to first-line treatment as well as the treatment of patients under previous alternative therapy, e.g. with a TNF-a blocker.

Fields of Use Treatment of PRP, particularly refractory PRP

Patent Status Patent application filed (EP 21/191522)

Contact Unitectra, Technology Transfer University Zurich, Dr. Patrick Sticher
Scheuchzerstrasse 21, CH-8006 Zürich, +41 44 634 44 01, mail@unitectra.ch