Piperine and melanoma - a crucial issue for future clinical studies

PI: Soumyanath, Amala, PhD

Abstract

Based on extensive preclinical data, our ultimate goal is to develop the compound piperine (PIP) as a novel treatment for the skin disease vitiligo. In collaboration with OHSU dermatologists, the PI (Soumyanath) recently applied to NIH/NIAMS to fund a Phase I clinical trial of PIP plus narrow band UVB (NBUVB) in vitiligo subjects. While the reviewers expressed enthusiasm for PIP as a novel treatment for vitiligo, and for the design of the clinical trial, a major concern was PIP’s unknown effect on melanoma development, particularly if used in conjunction with UVB. This concern is a major hurdle to the future clinical investigation of PIP in vitiligo, and clearly must be addressed. The specific aim of this proposal is to investigate the effect of piperine (PIP), alone or with UV radiation, on melanoma development using the HGF-BL6 mouse model of melanoma. Several lines of evidence suggest that PIP is, in fact, likely to prevent melanoma development. We are therefore optimistic that this T1 translational study will generate data that will enable the translation of our preclinical studies into clinical trials of PIP in humans with vitiligo. We hypothesize that, despite its stimulatory effects on normal melanocyte proliferation, PIP will not promote, and may even reduce, melanoma formation in a murine model of UV-induced melanoma.