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# RCB receives Rs 3.6 Cr for research on pigmentary disorder

28 February 2020 | News

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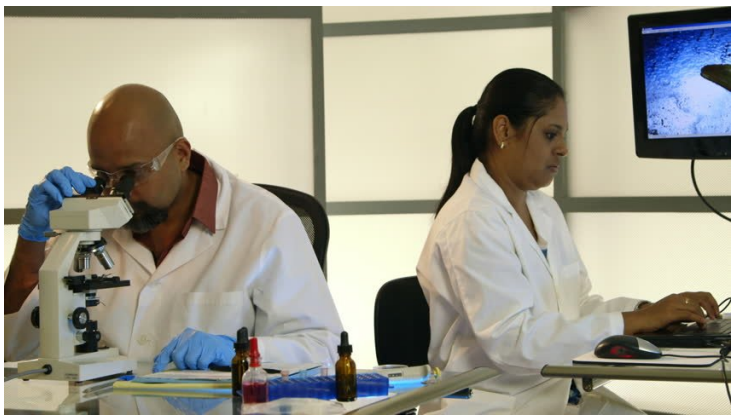

Studies to understand the problem of pigmentary disorders is expected to get a major shot in the arm with Wellcome Trust/DBT India Alliance conferring an Intermediate Fellowship Award on Dr. Rajender K. Motiani, Assistant Professor at Faridabad-based Regional Centre for Biotechnology (RCB). The award consists of a grant of Rs 3.60 crore for a period of five years.

Physiological pigmentation is a critical defense mechanism by which skin is protected against harmful UV radiations. Inefficient pigmentation predisposes to skin cancers, which are one of the leading causes of cancer-associated deaths worldwide. Further, pigmentary disorders (both hypo and hyper pigmentary) are considered a social stigma and therefore they impart long-term psychological trauma and tremendously hamper mental well-being of patients. The current therapeutic strategies are not efficient in alleviating pigmentary disorders.

The research project to be taken up under the award would seek to identify novel targetable molecular players that critically regulate pigmentation process. Further, the researchers would try to repurpose commercially available drugs for treatment of pigmentary disorders. In long run, this project is expected to have a two pronged benefits for society - protection from UV-induced skin cancers and potential treatment options for pigmentary disorders.

So far, the focus in the pigmentation biology field has been to understand the enzymes regulating melanin synthesis and on the melanosome proteins involved in their biogenesis and maturation. However, melanosome biogenesis and melanin synthesis are complex phenomenon and other cellular organelle could potentially regulate this process.

Studies conducted by Dr. Motiani and his team on differentially pigmented melanocytes earlier have indicated that Endoplasmic Reticulum (ER) and Mitochondria are critical regulators of pigmentation.

The aim of the new project is to delineate the role of Endoplasmic Reticulum and Mitochondria signaling pathways in pigmentation and to identify the key Endoplasmic Reticulum and Mitochondrial proteins that regulate pigmentation. They would then target these signaling cascades with FDA approved drugs to know whether any known drugs could be repurposed for alleviating pigmentary disorders too.