Jun-Jie Tan, Nat Prod Chem Res 2014, 2:5
http://dx.doi.org/10.4172/2329-6836.S1.002

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference and Exhibition on
Pharmacognosy, Phytochemistry & Natural Products
August 25-27, 2014 DoubleTree by Hilton Beijing, China

Tualanghoney: An emerging natural remedy in regenerative medicine

Jun-Jie Tan
UniversitiSains Malaysia, Malaysia

Tualang honey has recently been extensively studied for its anti-microbial activities and uses in traditional medicine. Little is known about its role and potential application in wound repair and tissue regeneration. Here we proved that Tualang honey was able to modulate corneal epithelial progenitor cell functions without affecting its stemness and proliferative capability, but the positive effects could be offset by its cytotoxicity at high concentrations. The honey, which contains higher antioxidant content compared to its counterparts based on a past study, was also found to improve the corneal epithelial progenitor cell resistance to oxidative stress, a crucial characteristic for better transplant engraftment and survival. Interestingly, the benefits observed were attributed to Tualang honey in its native form, but not 5-hydroxymethyl-2-furancarboxaldehyde, the major antioxidant that present in Tualang honey. Moreover, the survival of the corneal epithelial progenitor cells after hydrogen peroxide stress at 100 μM was greater after treated with Tualang honey compared to ascorbic acid-treated controls, suggesting that the antioxidant properties of raw Tualang honey conferred on corneal epithelial progenitor cells the superior resistance to oxidative stress.

Biography

Jun-Jie Tan obtained his bachelor degree in Biomedical Science at Universiti Putra Malaysia in 2007, completed his DPhil studies at University of Oxfordin 2011 and currently serves as a senior lecturer at Advanced Medical and Dental Institute, UniversitiSains Malaysia. His research is primarily on stem cells biology and regenerative science, and has recently shifted his interest to explore the use of natural products in pre-conditioning stem cells in vitro to enhance the cell functions and augment the therapeutic effects after cell transplantation. He was awarded the Young Investigator Award in a regional conference of molecular medicine in Malaysia for his recent work on honey in 2013, and has several reputed publications and research grants.

jjtan@amdi.usm.edu.my