

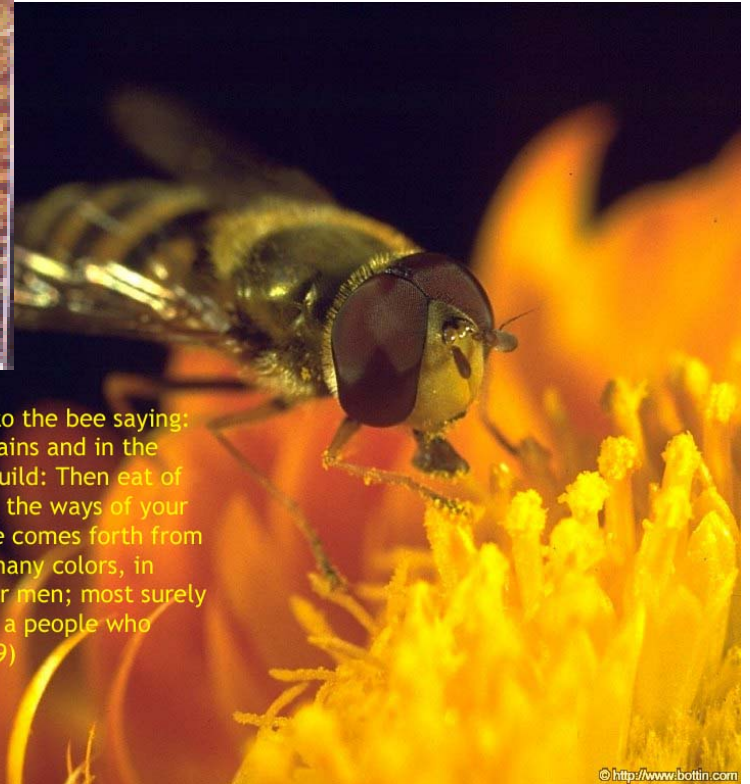
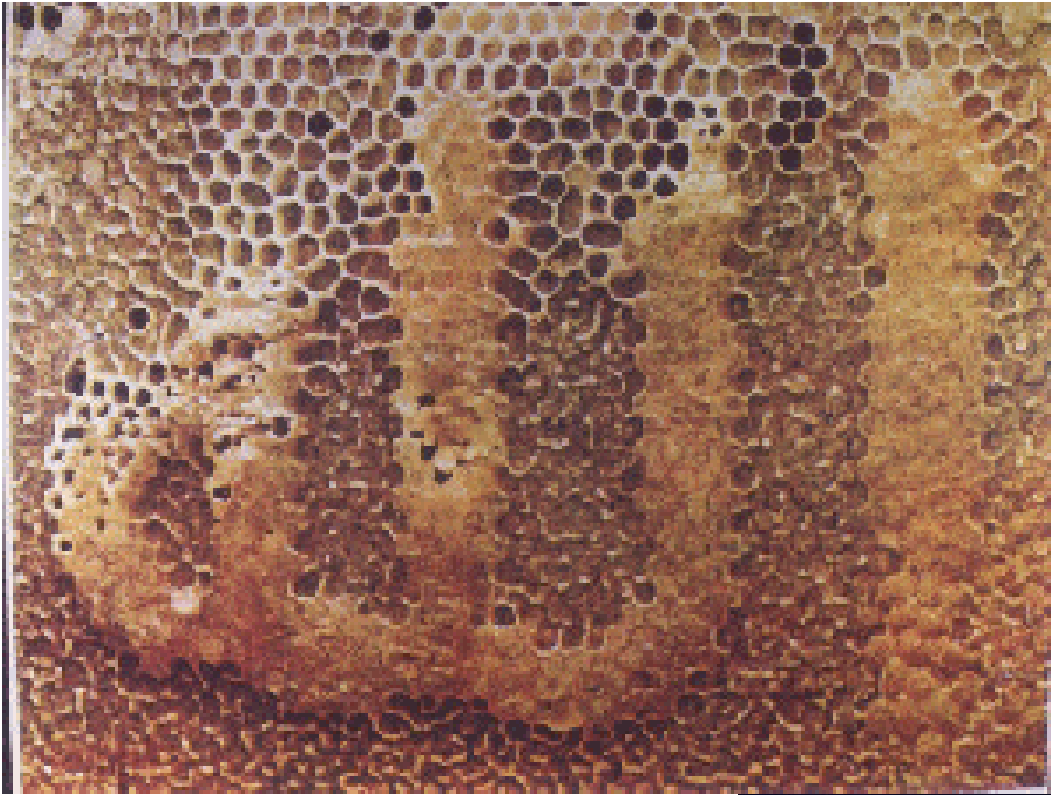


Genome-wide expression study on human cell lines upon exposure with different bee products

Teguh Haryo Sasongko

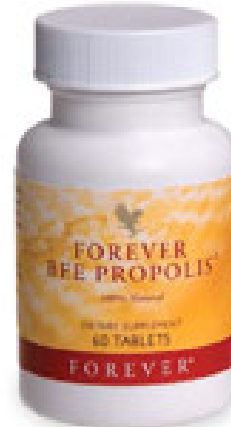
Presented at the Transdisciplinary Research Seminar
USM Health Campus, 27 July 2010

Bee; A Heavenly Creature



And your Lord revealed to the bee saying: Make hives in the mountains and in the trees and in what they build: Then eat of all the fruits and walk in the ways of your Lord submissively. There comes forth from within it a beverage of many colors, in which there is healing for men; most surely there is a sign in this for a people who reflect. (Qur'an 16:68-69)

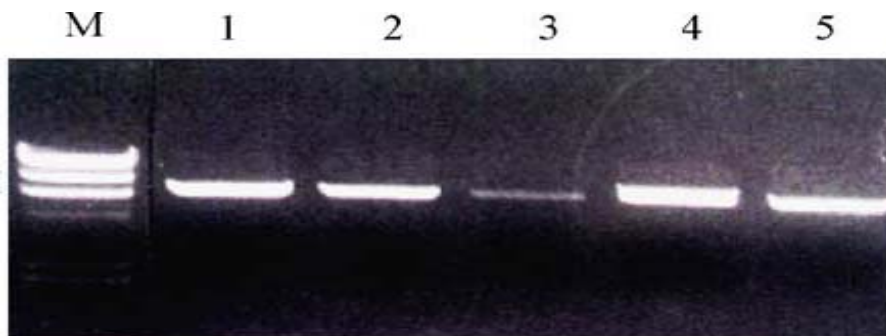
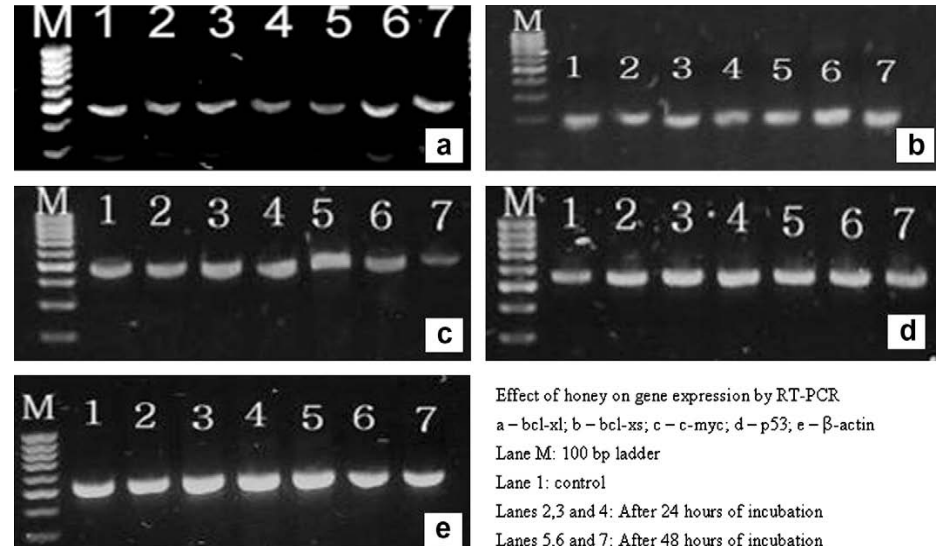
Bee products



Studies on Gene Expression

Bee Venome on Aromatase Expression;
Kim et al., 2005

Tualang Honey on Cancer Gene Expression;
Kannan et al., 2009



Fibroblast cell line (MRC 5) treated with honey (10% FBS + 0.0195% Honey) showed increase in mRNA expression of the bcl-xl gene at both 24 and 48 hours, whereas, there was under expression of bcl-xs gene at 24 hours and over expression at 48 hours. c-myc and p53 genes showed under expression at both 24 and 48 hours

Genome-wide Expression Study ?

Characterization of the mechanisms of actions

Revealing Unknown Effect

Seeking Collaborators

- Pharmacologist
- Apitherapist
- Cell Biologist
- Microarray Data Analyst