



Edible QR Code for Personalized Medicine



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Letter to Editor

Majority of human beings, 99.9%, have the same genome bases. Remaining 0.1 percent makes a person unique, as reflected in different attributes, e.g. personal look, development of diseases. Some of the personal differences may be harmless (change in phenotype), harmful (diseases), or Latent (susceptibility to some diseases). Therefore, making medicines to suit particular patient (personalized medicine) is a hot topic in healthcare systems. Sequencing RNA can provide a broader understanding of a person's state of health. Recent studies have linked genetic differences between individuals to RNA expression [1] translation [2] and protein levels [3]. Personalized medicine is also termed precision medicine, which is a medical procedure that separates patients into different categories with medical decisions, practices, interventions and/or products being tailored to the individual patient based on their predicted response or risk of disease [4].

The FDA has already taken initiatives to integrate personalized medicine into their regulatory policies. They developed a report in

October 2013 entitled, "Paving the Way for Personalized Medicine: FDA's role in a New Era of Medical Product Development," in which future steps considered to integrate genetic and biomarker information for clinical use and drug development [5]. More recently, researchers have developed a new method for the production of medicine utilizing drugs in QR coded patterns using edible materials. By this way, the production can be tailored to

fit each patient and has the potential to protect against wrong medication. Furthermore, the shape of a QR code enables storage of data in the dosage form and can detect counterfeit products. Accordingly, by doing a quick scan, one can get all the information about the product [6]. Hopefully, the researchers develop a printer capable of applying the drug in the QR code, while the edible base will be available in advance to respond to production of the medical drug near the end-users.

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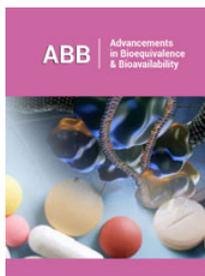
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