

3rd World Congress on Advancements in Tuberculosis & Lung Diseases

March 17, 2021 | Webinar

Tissue Design-Integrated Crispr/Cas9 System as Mdr-Tb Sensor: Practical and economical solution for Mdr-Tb detection in Indonesia

Tuberculosis (TB) is an infectious disease which causes death after HIV, mostly in a tropical and developing country like Indonesia. TB infection can be categorized into tropical neglected disease epidemiologically as the patients are mostly from slum area, dense population, rural, and poor family who have many obstacles in healing process. TB is caused by an infectious bacteria, mycobacterium tuberculosis, which is contagious easily. Multi Drug Resistant (MDR-TB) is the biggest problem in preventing and curing TB in the world. Indonesia is in the 8th of 27th country which has big issue of TB. MDR-TB diagnosis recently uses GeneXpert. This tool spends a big cost and expensive to be bought therefore only a few hospitals can afford it. Furthermore, it needs training and skilled persons to use it in diagnosing MDR-TB. This research aims to solve the problem by creating a tissue design integrated-CRISPR/Cas9 System as MDR-TB sensor. This research uses literature review method. CRISPR or Cluster Regularly Interspaced Short Palindromic Repeats has been used mostly as genome editing. This concept uses CRISPR to detect specific resistant genes, rifampisin and isoniazid, in tuberculosis bacteria. If the patient has MDR-TB, the tissue will turn blue as it detects rifampisin and isoniazid.

Biography

Muhammad Ridwan, MD (1st author) was graduated from Faculty of Medicine Andalas University-Indonesia. He is a lecturer at Faculty of Medicine Bengkulu University. He is also a medical writer at Alomedika. He has some papers that had been presented in many International Congress as oral and poster presentations. He was awarded as The Most Outstanding Medical Student Provincial Level in Indonesia.

Muhammad Arfan (2nd author) was graduated from Sriwijaya University as Electrical Engineer. He has an interest in biomedical, especially in bioimaging. He's pursuing a postgraduate degree at Bandung Institute of Technology in Biomedical Engineering Program and completing his research about Quantitative Imaging using Mobile Phone Microscope to analyze Complete Blood Count (CBC).

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