

A Cost-Effective in-Silico Approach for Identification of MicroRNAs (MiRNAs) Involved in Cellular Senescence Pathway

Yaashini Rajasegaran¹, Adam Azlan¹, Narazah Mohd Yusoff¹ Emmanuel Jairaj Moses*¹

¹Advanced Medical and Dental Institute, Universiti Sains Malaysia, 13200 Bertam, Kepala Batas, Pulau Pinang

Accumulating evidences have shown that miRNA dysregulation occurs in the majority of human malignancies. This study aims to identify miRNAs that are involved in the cellular senescence pathway through in-silico approach. Two different bioinformatics approaches utilizing four bioinformatics software were used to identify overlapping miRNAs: Approach 1 and Approach 2. We found that the use of different bioinformatics approaches produces two different sets of results. These results imply that the use of different bioinformatics approaches is not only cost-effective but also produces more thorough and robust results that act as a preliminary screening which can be very useful for downstream applications.

Keywords: miRNA dysregulation, cost-effective

Acknowledgements

We would like to acknowledge the grant from Universiti Sains Malaysia (USM) - USM Research University Individual Grant (RUI 1001/CIPPT/8012265) and the Fundamental Research Grant Scheme from MOHE (FRGS 1/2018/SKK08/USM/02/8) for funding this work.

***Correspondence:** Emmanuel Jairaj Moses

Telephone/fax number: +604-5622542

Email address: emmanuel_jm@usm.my