OMICS International
conferenceseries.com

Lee Jeong-Sang et al., J Nurs Care 2015, 4:4
http://dx.doi.org/10.4172/2167-1168.S1.010

Data mining of microRNAs in colon carcinogenesis which may be effective potential targets for cancer chemoprevention as systemic approach

Lee Jeong-Sang[1, 2, 3], Yun Jae-Joong[4], Kang Jin-Wook[1] and Kim Min-Ji[1]
[1]General Graduate School of Jeonju University, South Korea
[2]Jeonju University, South Korea
[3]Food Industry Research Istitute of Jeonju University, South Korea
[4]Seoul National University, South Korea

MicroRNAs (mi-RNAs) are a class of small non-coding single-strand RNA molecules that play an important role in inhibition of translation or degradation of targeted messenger RNA by destabilizing. The mi-RNAs regulate a wide range of biological processes of cell, including apoptosis, cell proliferation, cell-cycle and carcinogenesis. Change of *mi-RNA* expression patterns is associated with carcinogenesis.Studies about loss- or gain of *mi-RNA* in tumor is at an early stage, it shows great potential between mi-RNA and carcinogenesis. The useful big data was extracted from The Cancer Genome Atlas by using IluminaGA_miRNASeq platform in human colon adenocarcinoma samples. After collecting the data, meaningless data was removed based on the read count per million mi-RNA mapped. According to the difference above five-folds (>5), two and half-folds (>2.5), and the another, mi-RNA IDs were sorted. Group of each mi-RNA ID was analyzed through D/Bs (miRWalk, miRanda, miRDB, RNA22, and TargetScan) on predicted and validated microRNA targets. Then, the valuable data between the target gene and mi-RNA ID was cross-checked by searching the published papers. The sorted data clearly give us a crucial clue about the positive correlation of mi-RNAs in cancer-related gene such as *K-ras, TGF-beta* and *TGF-BR2, Smads4, PTEN, PI3K, EGFR, VEGF, MYC, p53, APC, FOXO1m Braf, COX-2, HO-1*, and *Sirt-1*. It is unknown whether combination of microRNAs may act synergistically on the targeted disease. Function of mi-RNA regulation in cancer pathogenesis will help us to completely understand these mi-RNAs role and these potential targets would be used for colon cancer prevention.

Biography

Lee Jeong-Sang has completed his PhD at Seoul National University College of Pharmacy (Biochemistry major) and Postdoctoral training from Yale University School of Medicine (Comparative Medicine and Pharmacology) for 3 years. He is now serving as the Director of Food Industry Research Institute of Jeonju University. He has published 45 papers in reputed journals and has been serving as an Editorial Board Member of Frontier in Bioscience. He has been studying cancer prevention research especially focusing on gastro-intestinal inflammation. He expanded his expertise to translational research, utilizing human patient samples (gastritis, colitis, gastric and colon cancer).

jslee11@jj.ac.kr

Notes: