



Approaches to Explore Next Generation Sequencing Data: Focus on microRNAs

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ABSTRACT: Next generation sequencing has come up with new era of nucleic acid sequencing studies to the lead of current biological data research. High throughput sequencing combined with advance molecular and computational techniques has given researchers to profile the whole genomes sequence of DNA and RNA much more quickly than the previously used Sanger sequencing and pyrosequencing, which have revolutionised the study of genomics and molecular biology. NGS is done by using different modern sequencing technologies/platforms such as Illumina (Solexa) sequencing Roche 454 sequencing Ion torrent: Proton / PGM sequencing, SOLiD sequencing etc. In this technical discussion we aim to explain the strategies and methodologies with briefing the workflow and methods of library preparation, sequencing and analysis techniques that have been developed to profile a specific class of small RNAs i.e. microRNAs using next generation sequencing platforms. MicroRNAs are the class of non-coding small RNAs which regulates gene expression at posttranscriptional level by mRNA degradation or inhibition and act as a potential tiny regulators. We will also describe methodologies of target prediction, GO and KEGG analysis using NGS data. © 2016 iGlobal Research and Publishing Foundation. All rights reserved.

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