OXFORD

Biostatistics & Medical Informatics 776: Advanced Bioinformatics Project

miRNA Normalization and Amplification Bias

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Abstract

Motivation: Small noncoding RNAs known as microRNA (miRNA) play a crucial role in gene expression regulation. Each miRNA can target many genes, and many genes can be affected by a variety of miRNA[6]. However, there is still no consensus on how expression data should be pre-processed before downstream analysis. I will survey and evaluate existing normalization methods and attempt to characterize and correct for amplification biases. If I am successful, we will be better able to contrast the regulatory effects of miRNA profiles from different biological conditions.

Results: Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text

Availability: Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text

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Supplementary information: Supplementary data are available at *Bioinformatics* online.

1 Introduction

- Motivate Problem
- Context and Relevant work
- State Hypothesis

Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text. Figure 1 shows that the above method Text Text Text Text Text Text Text Text Text Text Text. (Bag *et al.*, 2001) wants to know about …… text follows.

2 Methods

- Describe Approach and Data analysis
- Data
- 3rd Party Algorithms
- Developed Algorithms

2.1 This is subheading

2.1.1 This is subsubheading

Table 1. This is table caption

head1	head2	head3	head4
row1	row1	row1	row1
row2	row2	row2	row2
row3	row3	row3	row3
row4	row4	row4	row4

This is a footnote

3 Results

4 Discussion

5 Figures and Tables

Figure 2 shows that the above method Text Text Text Text Text Text Text Text Text Text Text Text.

$$\sum x + y = Z \tag{1}$$

References

Bofelli,F., Name2, Name3 (2003) Article title, *Journal Name*, **199**, 133-154.

Bag,M., Name2, Name3 (2001) Article title, *Journal Name*, **99**, 33-54.

Yoo,M.S. *et al.* (2003) Oxidative stress regulated genes in nigral dopaminergic neurnol cell: correlation with the known pathology in Parkinson's disease. *Brain Res. Mol. Brain Res.*, **110**(Suppl. 1), 76–84.

Lehmann,E.L. (1986) Chapter title. *Book Title*. Vol. 1, 2nd edn. Springer-Verlag, New York.

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Fig. 1. Caption, caption.

Crenshaw, B.,III, and Jones, W.B.,Jr (2003) The future of clinical cancer management: one tumor, one chip. *Bioinformatics*, doi:10.1093/bioinformatics/btn000.

Auhtor,A.B. *et al*. (2000) Chapter title. In Smith, A.C. (ed.), *Book Title*, 2nd edn. Publisher, Location, Vol. 1, pp. ???–???.

Bardet, G. (1920) Sur un syndrome d'obesite infantile avec polydactylie et retinite pigmentaire (contribution a l'etude des formes cliniques de l'obesite hypophysaire). PhD Thesis, name of institution, Paris, France.