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Abstract

Motivation: Text Text Text Text Text Text.
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 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
Contact: name@bio.com
Supplementary information: Supplementary data are available at *Bioinformatics* online.

1 Introduction

Clustered regularly interspaced short palindromic repeats (CRISPR) / CRIPSR-associated protein 9 (Cas9) systems is preferred over other biological research and human medicine technologies now, beacuse of it's efficiency, robustness and programmability. Cas9 nucleases can be directed by short guide RNAs (sgRNAs) to introduce site-specific DNA double-stranded breaks in target, so to enable editing site-specific within the mammalian genome (Jinek *et al.*, 2012; Cong *et al.*, 2013; Mali *et al.*, 2013). CRISPR / Cas9, to a large extent, has developed genetic therapies at the cellular level, while there are still severe medical disadvantage even now which has greatly hindered the further clinical application of the CRISPR/Cas9 systems. One of these disadvantage is due to point mutations caused by off-target effects (Rubeis and Steger, 2018; Kang *et al.*, 2016; Ishii, 2017; Liang *et al.*, 2015). To overcome this disadvantage, a solution is to engineer CRISPR/Cas9 with higher specificities. That's why more and more higher specificities Cas9 variants, such as enhanced SpCas9 (eSpCas9(1.1)), Cas9-High Fidelity (SpCas9-HF1) (Ishii, 2017; Slaymaker *et al.*, 2016), hyper-accurate Cas9 (HypaCas9) (Kleinstiver *et al.*, 2016), been developed and bring a significant volume of experimental data, that is to say researchers have to face the difficulty of analyzing such huge and heterogeneous data.

2 Approach

Equation (1) Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text. Figure 2 shows that the above method Text Text Text Text Text Text Text Text Text Text Text Text. **?** might want to know about text text text text .....

...... text follows.

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

3 Methods

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- for bulleted list, use itemize
- for bulleted list, use itemize
- for bulleted list, use itemize

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3.1 This is subheading

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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

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picture(0,0)(-35,0)(1,0)30 (0,35)(0,-1)30 picture

picture(0,0)(35,0)(-1,0)30 (0,35)(0,-1)30 picture

Fig. 1. Caption, caption.

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3.2 Test1

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4 Discussion

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5 Conclusion

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1. this is item, use enumerate
2. this is item, use enumerate
3. this is item, use enumerate

Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text Text. Figure 2 shows that the

picture(0,0)(-35,0)(1,0)30 (0,-35)(0,1)30 picture

picture(0,0)(35,0)(-1,0)30 (0,-35)(0,1)30 picture

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Acknowledgements

Text Text Text Text Text Text Text Text. Jinek *et al.*, 2012 might want to know about text text text text

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