

The guide to genotyping of the probiotics at strain level by whole  
genome sequencing





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1

2

3

3.1

probiotics

3.2

strain

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3.3

genome

3.4

sequence alignment

4

5

6

6.1

6.2

7

7.1

7.1.1

7.1.2

7.1.3

7.2

7.2.1

7.2.2

7.2.3

7.3

7.3.1

7.3.2

7.3.3

7.3.4

7.4

7.4.1

7.4.2

7.4.3

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7.4.4

7.4.5

7.4.6

7.5

7.5.1

7.5.2

7.5.3

7.5.4

7.5.5

7.6

7.6.1

7.6.2

8

8.1

8.1.1

8.1.2

8.1.3

8.1.4

8.2

SNP

8.2.1

8.2.2

8.3



8.3.1

8.3.2

9

9.1

9.2

9.3

9.4

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10.1

10.2

10.3

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A

A. 1

A. 2 GATK

A. 3

B

B. 1

B. 2

B. 3

