

 exon1



 Exon2

 Exon4

 Exon3

 Exon5



 Exon6



 Exon7

 Exon8



 Exon10

 Exon9

 Exon11



 Exon12

**Fig. S1**  *C. amarus* *ClCIPK17* gene sequence information. Red letters, exon; black letters, intron; green background, base mutation; yellow background, base insertion; pink background, base deletion.



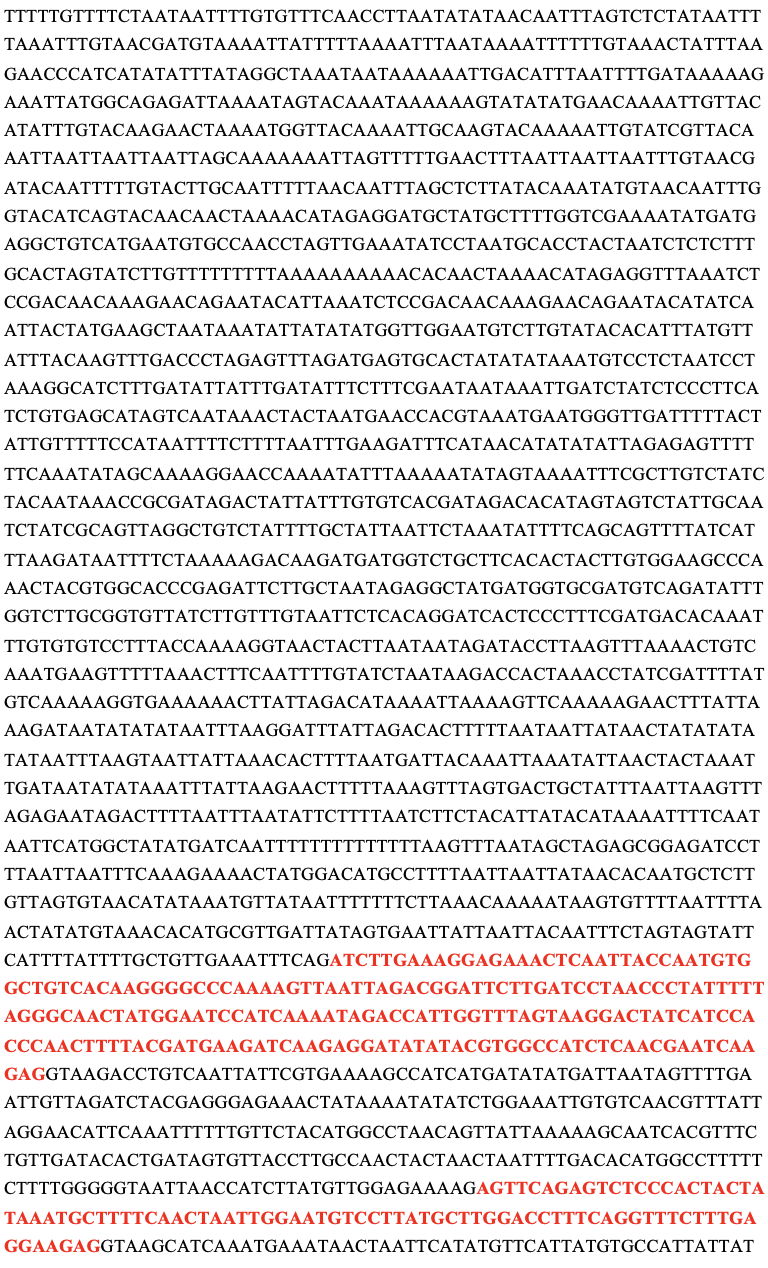
 Exon1

 Exon5

 Exon2

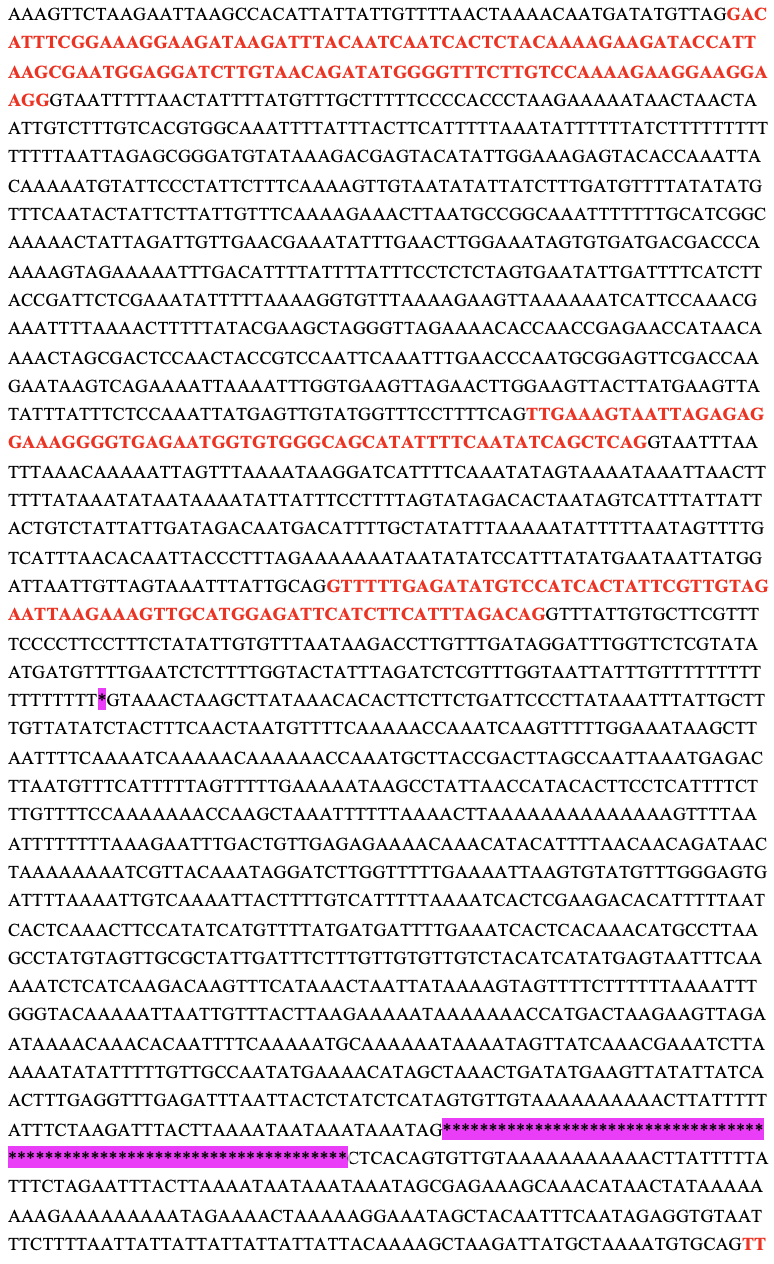
 Exon3

 Exon4



 Exon7

 Exon6



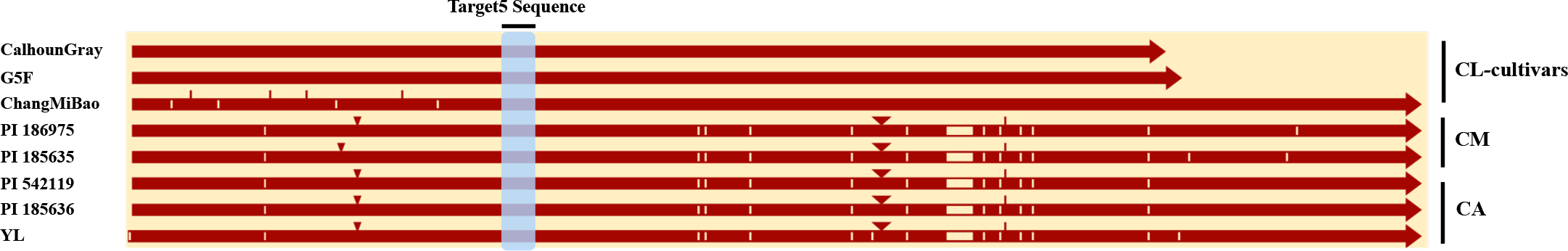
 Exon10

 Exon8

 Exon9

 Exon11

**Fig. S2**  *C. lanatus* *ClCIPK17* gene sequence information. Red letters, exon; black letters, intron; pink background, base deletion.



**Fig. S3**  Analysis of mutations at sgRNA5 in different watermelon accessions. In the gene diagrams, light blue block, brown triangles, white bars and red bars indicate target sequences, base insertion, SNP variation and insertion mutations, respectively.



**Fig. S4**  Sequencing analysis of mutation types at the sgRNA1 target site. (A) Insertion; (B) Small fragment deletion; (C) Large fragment deletion; (D) Insertion & deletion. Yellow background, base insertion；-, base deletion; —, base omitting.