Supplemental Table 1. List of the CR and non-CR cultivars of Chinese cabbage used in this study

| CR/non-CR | No. | Name of cultivar | Seed company                      |
|-----------|-----|------------------|-----------------------------------|
| CR        | 1   | Kinami 90        | Ishii Seed Growers Co., Ltd.      |
|           | 2   | CR Seiga 65      | Ishii Seed Growers Co., Ltd.      |
|           | 3   | SCR Hiroki       | Sumika Agrotech Co., Ltd.         |
|           | 4   | SCR Kimi 85      | Sumika Agrotech Co., Ltd.         |
|           | 5   | Kougetsu 77      | Kaneko Seeds Co., Ltd.            |
|           | 6   | Kisho            | Kaneko Seeds Co., Ltd.            |
|           | 7   | Kiryoyoshi 70    | Kaneko Seeds Co., Ltd.            |
|           | 8   | Moegi            | Kaneko Seeds Co., Ltd.            |
|           | 9   | Shoki            | Kaneko Seeds Co., Ltd.            |
|           | 10  | CR Kisen         | Tokita Seed Co., Ltd.             |
|           | 11  | CR Saitsaikai    | Tokita Seed Co., Ltd.             |
|           | 12  | CR Kaio          | Tokita Seed Co., Ltd.             |
|           | 13  | CR Kisaku 80     | Marutane Co., Ltd.                |
|           | 14  | CR Kyotakara 70  | Marutane Co., Ltd.                |
|           | 15  | CR Kyotakara 80  | Marutane Co., Ltd.                |
|           | 16  | CR Shinki        | Taki & Co., Ltd.                  |
|           | 17  | Kukai 65         | Taki & Co., Ltd.                  |
|           | 18  | Yuki             | Taki & Co., Ltd.                  |
|           | 19  | Kigokoro 65      | Taki & Co., Ltd.                  |
|           | 20  | Kigokoro 85      | Taki & Co., Ltd.                  |
|           | 21  | Kiraboshi        | Taki & Co., Ltd.                  |
|           | 22  | Kitaboshi 90     | Taki & Co., Ltd.                  |
|           | 23  | Haregi 65        | Taki & Co., Ltd.                  |
|           | 24  | Haregi 75        | Taki & Co., Ltd.                  |
|           | 25  | Kiraku 70        | Tohoku Seed Co., Ltd.             |
|           | 26  | Shinshu Daitoku  | Tohoku Seed Co., Ltd.             |
|           | 27  | Hukutakura 60    | Tohoku Seed Co., Ltd.             |
|           | 28  | Daihuku 206      | Tohoku Seed Co., Ltd.             |
|           | 29  | CR Satokaze      | Sakata Seed Co.                   |
|           | 30  | Minebuki 505     | Sakata Seed Co.                   |
|           | 31  | Satobuki 613     | Sakata Seed Co.                   |
|           | 32  | Chiyobuki 70     | Sakata Seed Co.                   |
|           | 33  | Chiyobuki 85     | Sakata Seed Co.                   |
|           | 34  | CR Kanko         | Nippon Norin Seed Co.             |
|           | 35  | Akiriso          | Nippon Norin Seed Co.             |
|           | 36  | Kihuku 65        | Nippon Norin Seed Co.             |
|           | 37  | Kien 80          | Nippon Norin Seed Co.             |
|           | 38  | SCR Shinriso     | Nippon Norin Seed Co.             |
|           | 39  | Akimeki          | Nippon Norin Seed Co.             |
|           | 40  | SCR Akinishiki   | Nippon Norin Seed Co.             |
|           | 41  | Ryutoku          | Watanabe Seed Co., Ltd.           |
|           | 42  | Kiko 85          | Watanabe Seed Co., Ltd.           |
|           | 43  | Kinki 65         | Watanabe Seed Co., Ltd.           |
|           | 44  | Kinki 80         | Watanabe Seed Co., Ltd.           |
|           | 45  | Kii 65           | Watanabe Seed Co., Ltd.           |
|           | 46  | Meikyo           | Watanabe Seed Co., Ltd.           |
|           | 47  | W-1117           | Watanabe Seed Co., Ltd.           |
|           | 48  | W-1116           | Watanabe Seed Co., Ltd.           |

| non-CR    | 49  | Aichi            | Taki & Co., Ltd.                  |
|           | 50  | Kyoto 3          | Taki & Co., Ltd.                  |
|           | 51  | Kashin Hakusai   | Taki & Co., Ltd.                  |
|           | 52  | Shin Azuma       | Taki & Co., Ltd.                  |
|           | 53  | Muso             | Taki & Co., Ltd.                  |
|           | 54  | Chihiri 70       | Taki & Co., Ltd.                  |
|           | 55  | Banki            | Taki & Co., Ltd.                  |
|           | 56  | Haruwarai        | Taki & Co., Ltd.                  |
|           | 57  | Cream 2          | Watanabe Seed Co., Ltd.           |
|           | 58  | Shinriso         | Nippon Norin Seed Co.             |
|           | 59  | Banchu Daitoku   | Tohoku Seed Co., Ltd.             |
|           | 60  | Toshikoshi       | Sakata Seed Co.                   |

* Lane No. in Fig. 5
Supplemental Table 2. Sequences of primers used in this study

| Primer name           | Sequence (5' - 3')                           | Use                                                                 |
|-----------------------|----------------------------------------------|----------------------------------------------------------------------|
| Crr1a_Hirok_InF_F1_F  | AGCTTTTTGAAACCATGAAATTTCAATCGTTTTTGAAAG     | Amplification of the Fragment 1 from G004, SCR Hiroki, and Kiko85   |
| Crr1a_Hirok_InF_F1_R  | AGAGCAATCTAGACTATCTCTCTCTCGAGGGAC            | Amplification of the Fragment 1 from G004, SCR Hiroki, and Kiko85   |
| Crr1a_G004_InF_F2_F   | AGCTAGATTGCTCTTTTAC                         | Amplification of the Fragment 2 from G004                            |
| Crr1a_G004_InF_F2_R   | CACCAAAACGTCGACGCTCCATTAACATGAGA            | Amplification of the Fragment 2 from G004                            |
| Crr1a_Kn90_InF_F2_F   | TAGATGTGCTTTTTACAGGA                       | Amplification of the Fragment 2 from Kinami90                        |
| Crr1a_Kn90_InF_F2_R   | CACCAAAACGTCGACGCTTTCCATCAACATGAGA         | Amplification of the Fragment 2 from Kinami90                        |
| Crr1a_exon1_F         | ATGAAATTTCAATCGTTTTTGAAAG                   | Detection of the Crr1aKinami_a                                       |
| Crr1a_exon1_R         | AGTTCTGGACCATGATTCT                         | Detection of the Crr1aKinami_a                                       |
| Crr1a_exon4_F         | TGCACAAAGCTGGTTTCGCTC                      | Detection of the Crr1aG004                                           |
| Crr1a_exon4_R1        | GTTCTGTCTCCGCAAGTCAGAGCAA                   | Detection of the Crr1aG004                                           |
| Crr1a_exon4_R2        | GCATTACTATATTTATGCGACATGCG                 | Detection of the Crr1aG004                                           |