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Identification of sequence-related amplified polymorphism markers linked to the red leaf trait in ornamental kale (*Brassica oleracea* L. var. *acephala*)

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ABSTRACT. Artistic diversiform leaf color is an important agronomic trait that affects the market value of ornamental kale. In the present study, genetic analysis showed that a single-dominant gene, *Re* (red leaf), determines the red leaf trait in ornamental kale. An F_2 population consisting of 500 individuals from the cross of a red leaf double-haploid line 'D05' with a white leaf double-haploid line 'D10' was analyzed for the red leaf trait. By combining bulked segregant analysis and sequence-related amplified polymorphism technology, we identified 3 markers linked to the *Re*/*re* locus. A genetic map of the *Re* locus was constructed using these sequence-related amplified polymorphism markers. Two of the markers, Me8Em4 and Me8Em17, were located on one side of *Re*/*re* at distances of 2.2 and 6.4 cM, whereas the other marker, Me9Em11, was located on the other side of *Re*/*re* at a distance of 3.7 cM. These markers could be

helpful for the subsequent cloning of the red trait gene and marker-assisted selection in ornamental kale breeding programs.

Key words: Ornamental kale; Sequence-related amplified polymorphism; Red leaf

