

# Molecular characterization of BYDV resistance gene *Ryd4<sup>Hb</sup>* introgressed from *Hordeum bulbosum* into barley

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Barley yellow dwarf virus (BYDV) causes high yield losses worldwide. Thereby aphids play an important role as virus vectors. Such yield losses caused by BYDV may be reduced using virus-tolerance genes from the primary genepool of barley. Additionally, complete resistance to the virus has been introgressed *via* interspecific crosses from the secondary genepool within the tetraploid wild species *Hordeum bulbosum* to barley chromosome 3HL. Previous studies indicate that this resistance is governed by a dominant

gene, *Ryd4<sup>Hb</sup>*. In the present study, a BC<sub>2</sub>F<sub>4</sub> mapping population consisting of 134 individuals was used to establish a molecular-marker map for *Ryd4<sup>Hb</sup>*. Using the model genome of *Oryza sativa*, the Massive Analysis of cDNA Ends (MACE) approach was applied to develop novel markers. One of these markers cosegregated with *Ryd4<sup>Hb</sup>*. For a fine-mapping of *Ryd4<sup>Hb</sup>* a BC<sub>2</sub>F<sub>6</sub> family of 454 individuals will be used.