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MICROSATELLITE TAGGING OF STRIPE-RUST RESISTANCE GENE YRH52 DERIVED FROM WILD EMMER WHEAT, *TRITICUM DICOCCOIDES* AND SUGGESTIVE NEGATIVE CROSSOVER INTERFERENCE ON CHROMOSOME 1B

J.H. Peng[1], T. Fahima[1], M.S. Roder[2], Y.C. Li, A. Dahan[1], A. Grama[3], Y.I. Ronin[1], A.B. KOROL[1], E. Nevo [1]

[1] Institute of Evolution, University of Haifa, Mount Carmel, Haifa 31905, Israel
[2] Institute for Plant Genetics and Crop Plant Research, Corrensstrasse 3, D-06466 Gatersleben, Germany
[3] Agricultural Research Organization, The Volcani Center, P. O. Box 6, Bet Dagan 50250, Israel

Stripe rust caused by *Puccinia striifomis* West. is one of the most devastative diseases in wheat production. Wild emmer wheat, *Triticum dicoccoides*, the tetraploid progenitor of cultivated wheat, has proven to be a valuable source of novel stripe rust resistance genes for wheat breeding. For example, *T. dicoccoides* accessions from Mt. Hermon, Israel are uniformly and highly resistant to stripe rust. The main objective of the present study is to map, using microsatellite markers, a stripe rust resistance gene derived from the unique Mt. Hermon population of wild emmer. An F_2 mapping population was established by crossing stripe-rust resistant *T. dicoccoides* accession H52 from Mt. Hermon with *T. durum* cultivar Langdon. The stripe rust resistance derived from accession H52 was found to be controlled by a single dominant gene which was temporarily designated as YrH52. Out of 120 microsatellite markers tested, 109 (91%) showed polymorphism between the parents. Among 79 segregating microsatellite loci generated from 56 microsatellite primer pairs, nine were linked to YrH52 with recombination frequencies of 0.02 to 0.35, and LOD scores of 3.56 to 54.22. A genetic map of chromosome 1B consisting of ten microsatellite loci and the stripe rust resistance gene, YrH52, was constructed with a total map length of 101.5 cM. YrH52 is also closely linked to RFLP marker Nor1 with 1.4 cM of map distance and 29.62 of LOD value. Apparent negative crossover interference was observed in chromosome 1B, especially in the region spanning the centromere. The negative crossover interference may be a common characteristic of the gene-rich regions or gene clusters in specific chromosomes.

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