

Abstract

Among the inactive tensions, salinity is one of the major restrictions of agricultural products. Some of the wild species of poacea family, such as the species related to *Thinopyrum* genus, contain a valuable gene pool to resist against biological and non-biological tensions and can be easily incorporated by wheat. Late in 1936 transferring genetic materials from *Thinopyrum* genus to wheat, were increased in order to raise the genetic variety in wheat to make resistance against disease, salinity stress, terra firma and other characteristics. Identification and definition of Chromatin or the unknown chromosome sections into the wheat's genome, has special importance in orthogenesis/revision plans. In this research, some parts of the E^b salinity-resistance gene sequence of one of the *Triticum aestivum* varieties named Hirmand were recognized. So after derivation of DNA, based on the experiments done by other investigators that recognized the OPF0 primer as a specific marker of E^b genome, and reported its sequence to the gene bank, 2 pairs of primer named F₁R₁ and F₂R₂ were designed; these two primers could multiply respectively 462bp and 1272bp fragments within the Hirmand wheat. Then genome-DNA digestion was done by *Pst* I and *Apa* I restriction enzymes and the specific primers and adaptors were designed. The connection of multi- nucleotide adaptors to the end of the cut fragments was done with the help of T4Ligase enzyme. Finally with the help of PCR and using two pairs of R3Adp1 and F3Adp2 primers of the upstream and downstream areas of the intended gene, they multiplied the fragments respectively in 510bp and 130bp sizes. The multiplied fragments were sequenced, and the fragment 1272bp derived from sequencing showed 84-96% homology with the other sequences of E^b. Therefore, we can conclude that the fragment 1272bp multiplied in Hirmand wheat, is a part of salinity-resistance gene; that probably this gene is transferred during hybridization of predecessors of this variety of wheat with beach *Salsola rigida*.

Key words: Polymerase chain reaction, Hirmand wheat, Sequencing



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**Partial sequencing of the salt resistant
(E^b) gene in Wheat Hirmand**

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