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Characterization of low molecular weight glutenin subunit genes from wheat *Triticum spp.*

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Gluten is a protein complex of gliadin and high and low molecular weight (LMW) glutenin. Glutenin subunits are held together by inter- and intra- molecular disulphide bonds to form glutenin polymer which is important for the rheological properties of wheat flour dough.
As a part of our ongoing studies to develop "wheat-like" rice for bread making it was necessary to clone the LMW glutenin gene. Genomic DNA extracted from wheat leaves of *Triticum spp,* was amplified by PCR using specific primers LMWGFP, LMWGRP flanking the coding region. The amplified product was Topocloned in pCR 2.1, sequenced.

Three LMW glutenin clones were analyzed. Analysis of the amino acid sequences of two clones revealed the presence of internal stop codons in the repetitive domain. The deduced amino acid sequences (including the pseudogenes) possessed eight conserved cysteine residues in the C-terminal domain and form intra molecular disulphide linkages.

The deduced amino acid sequence of the LMW glutenin functional gene was of the LMW-i type. Unlike the other LMW-m and LMW-s there is no N-terminal domain but starts with the ISQQQ-repetitive domain following the signal sequence. In addition there are three consensus repeat motifs (PPFSQQQQ-, PPISQQQQ-, PPYSQQQQ-) in the repetitive domains located on chromosome A.

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