the standard reference allele for the bronze locus [Rhoades, 1952] produces no enzymatic activity and no cross-reacting material (CRM) [Dooner and Nelson, 1977]. Restriction site analysis of bz-R suggests an approximately 350bp deletion within the transcribed region of the gene, and to verify the internal deletion this region was sequenced and compared to wild-type allele. The mutant bz-R shows a 340 bp gap [Ralston et al., 1987]. The stability of this mutation is high. Screening over 2 million gametes of the bz-R mutation detected no reversion [Ralston et al., 1987]. Later, the genomic sequence comparison between Bz-McC and bz-R verified the 340 bp deletion starting 46 bp inside the intron and extending 285 bp beyond the 3' splice site [Ralston et al., 1988]. Therefore the deletion appears to be sufficient to cause a loss of UFGT activity.

In the present study, with full-length cDNA sequence the molecular basis of the two maize endosperm spontaneous mutants at the Bt2 locus was elucidated at the DNA level.