

Table S6 List of genes with function prediction in the *qhir11* and *qhir12* genomic regions. The highlighted genes are putative candidate genes for HI in maize.

Gene	Genetic changes	B73 Allele/Sequence	CAU5 Allele/Sequence	Biological function ^a	References
<i>qhir11</i> region					
GRMZM2G120587	Deletion	TTTA	-	serine-type carboxypeptidase activity	Mitchell et al.
GRMZM2G471240	Deletion	GCATGCAT	-	hydrolase activity	Consortium TU
GRMZM2G035557	Insertion	-	CCGCCTCCGCCTCCGCCT	calcium ion binding	Mitchell et al.
GRMZM2G313009	AAC	G	A	metal ion binding	Mitchell et al.
<i>qhir12</i> region					
GRMZM2G135834	Insertion	-	TGCTCTCCCATCCCCATCC	DNA binding	Mitchell et al.
	Insertion	-	GGCGGCGGC		
GRMZM2G137502	Insertion	-	ACGGTGGTC	DNA binding	Mitchell et al.
GRMZM2G096682	Replacement	CAAATATTGTTTG	GAAATGTTTGCCA	amino acid binding	Mitchell et al.
AC177908.3	AAC	T	C	polygalacturonate 4-alpha-galacturonosyltransferase activity	Mitchell et al.
	AAC	G	A		
GRMZM2G351259	AAC	C	T	heme binding; iron ion binding;	Mitchell et al.
	AAC	A	T	monooxygenase activity;	Consortium TU
	AAC	A	G	oxidoreductase activity	
GRMZM2G036629	Deletion	ACAGA	-	metal ion binding	Mitchell et al.
GRMZM2G036543	Deletion	TGG	-	1	Mitchell et al.
GRMZM2G464580	AAC	T	G	metal ion binding	Mitchell et al.
GRMZM2G130121	AAC	C	G	ATP binding	Consortium TU
GRMZM2G030955	Deletion	GTTAAACAGTTTTGTTTCAG AAAACAGTTGTCACTACCCC CCACT	-	zinc ion binding	Mitchell et al.
	AAC	G	A		

^aBiological function: 1=1-(5-phosphoribosyl)-5-[(5-phosphoribosylamino) methylideneamino] imidazole-4-carboxamide isomerase activity