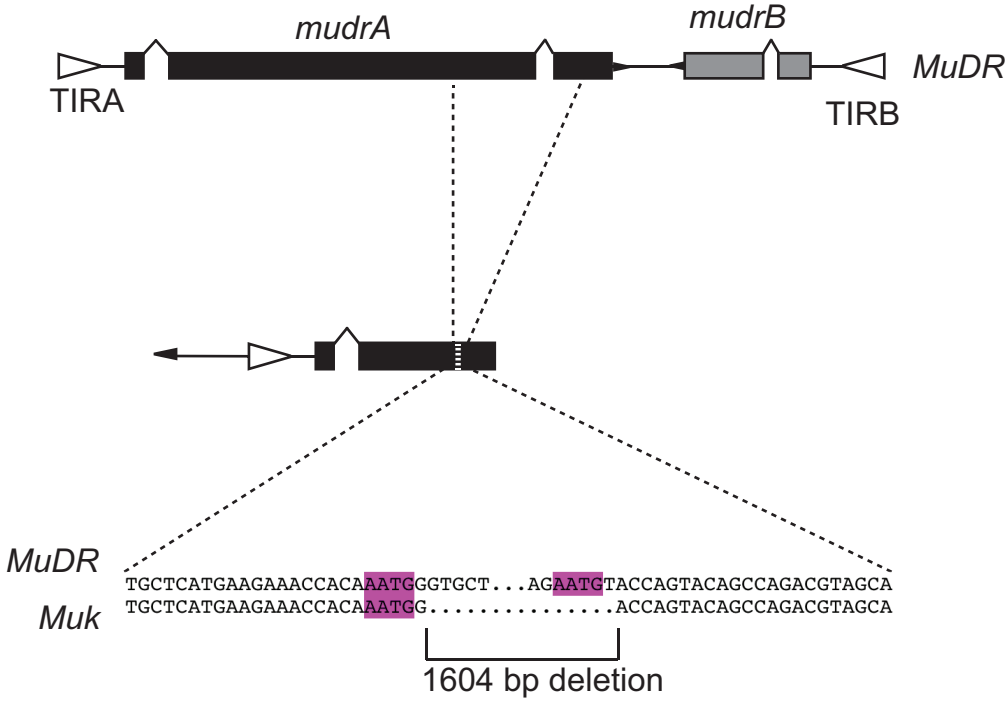
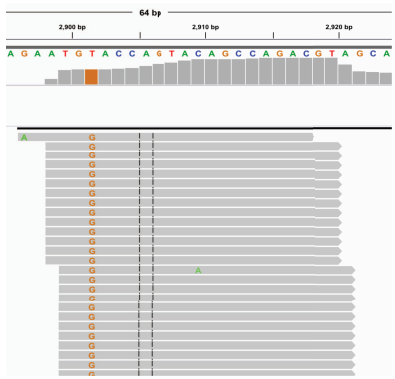



```
MuDR          TGCTCATGAAGAAACCACAAATGGGTGCT...AGAATGTACCAGTACAGCCAGACGTAGCA
Muk           TGCTCATGAAGAAACCACAAATGG.....ACCAGTACAGCCAGACGTAGCA
Muk_smRNA                    ATGG.....ACCAGTACAGCCAGACGTA
Muk_smRNA                       TGGACCAGTACAGCCAGACGTA  (sense relative to mudrA)
Muk_smRNA                      ATGGACCAGTACAGCCAGACGT   (sense relative to mudrA)
```



The deletion within *Muk* likely occurred as a consequence of strand slippage, in which resulted in the loss of one copy of a short, imperfect direct repeat (AATGG/AATGT). The result was the 5' direct repeat, as well as 1604 bp between the repeats. This resulted in a junction sequence that is unique to *Muk* (CCACAAATGGACCAGTACAGCCA). Small RNA sequencing in both plants carrying *Muk* by revealed the presence of an abundant class of 22 nt small RNAs that spanned that deletion junction (left). The majority of these small RNAs are oriented sense relative to the *mudrA* transcript.

Figure S2. The sequences flanking the deletion within *Muk*, illustrating polymorphisms introduced by that deletion in the small RNA population. As with d107, the deletion is likely due to strand slippage at a short direct repeat. The result is a *Muk*-specific junction sequence that is the source of numerous 22 nt small RNAs.