

**Supplemental Figure 5.** Identification of the insertional mutants. Gene structures of several 26S subunits were diagramed, and arrows indicate the positions of primers used in

genotyping and RT-PCR. Since most mutants lack the overt phenotypic changes, primer1 and 2 plus a T-DNA left border primer 5'-TGGTTCACGTAGTGGGCCATCG-3' were used in genotyping, with genomic DNA as templates. The primer1 and 2 were also used for RT-PCR to verify the reduced transcript levels of each gene from the corresponding mutants (see RT-PCR results on the right in each line). For *AE3/RPN8a*, the boxed primer sequences were used for analyses of two additional *ae3* alleles, *ae3-2* and *ae3-3* (see Figure 7B), and the primer sequences at the bottom were used for RT-PCR experiments for the *AE3* gene.