



Figure 5. PTGS induced by viruses or transgenes. Double-stranded precursors of siRNAs that bring about PTGS can be dsRNA viral genomes or replication intermediates, dsRNAs formed by overlapping transcripts from adjacent transcription units, or inverted repeats resulting from tandem transgenes that integrate in opposite orientations. Alternatively, single-stranded RNAs can be made double-stranded by the action of RNA-dependent RNA polymerases, such as RDR6 or RDR1. Dicing can then occur by DCLs 2, -3 or -4, with 22-nt DCL2 products and 21-nt DCL4 products being primarily associated with PTGS. On association with AGO1, the siRNAs target complementary RNAs for degradation or translational inhibition.