

RNAi in *Tetrahymena Thermophila*

Determination of Gene Functionality

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Goals: Determine the functionality of the proteins associated with the Dynein complex in the cilia of *Tetrahymena Thermophila*. Develop a working protocol for RNAi to be used in the Asai lab.

Background: RNA interference (RNAi) is an alternate method to using DNA to manipulate the genes in *Tetrahymena*. A fragment of double-stranded DNA is inserted into the macronucleus, the fragment is then transcribed and exported into the cytoplasm, where it associates with Dicer and Ago proteins. This complex (RISC) may then either cleave or transcriptionally repress the target mRNA, effectively silencing the gene in the cell. (Figure 1)

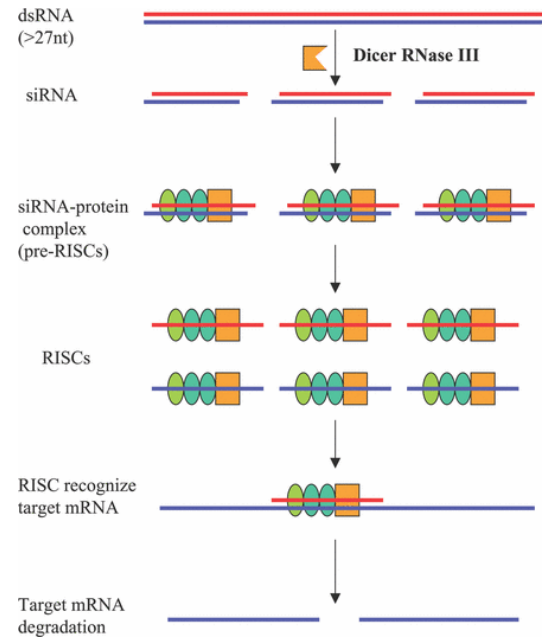
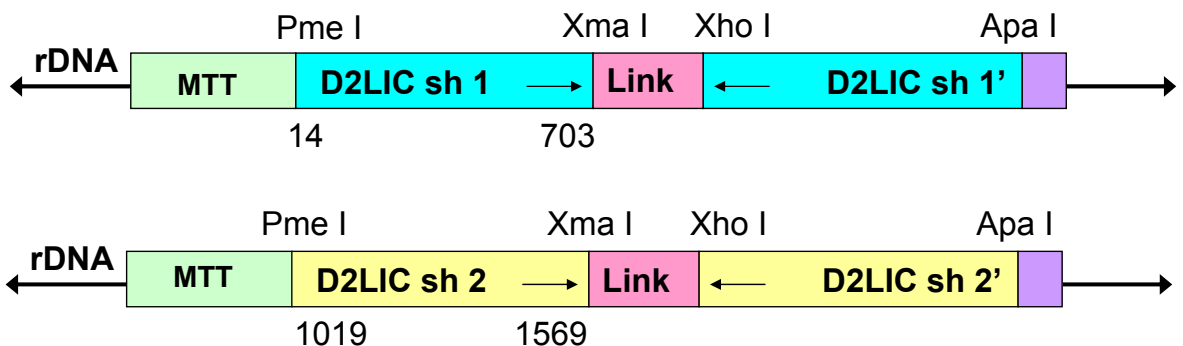


Figure 1. Pathway of RNAi in the cell.



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Figure one was taken from:

<http://www.biolcell.org/boc/097/0211/boc0970211f02.gif>