RNAi : RNA interference ( **quiets DNA** at the translation level)

a.A **microRNA** (**miRNA**) is a small [non-coding RNA](http://en.wikipedia.org/wiki/Non-coding_RNA) molecule (~22 [nucleotides](http://en.wikipedia.org/wiki/Nucleotide)) found in plants and animals, which functions in transcriptional and post-transcriptional [regulation of gene expression](http://en.wikipedia.org/wiki/Regulation_of_gene_expression). Encoded by [eukaryotic](http://en.wikipedia.org/wiki/Eukaryote) [nuclear](http://en.wikipedia.org/wiki/Cell_nucleus) DNA, miRNAs function via [base-pairing](http://en.wikipedia.org/wiki/Base-pair) with complementary sequences within [mRNA](http://en.wikipedia.org/wiki/MRNA) molecules, usually resulting in [gene silencing](http://en.wikipedia.org/wiki/Gene_silencing) via by **blocking the translation of mRNA** or target **degradation of polyA tail**. The [human genome](http://en.wikipedia.org/wiki/Human_genome) may encode over 1000 miRNAs, which may target about 60% of mammalian genes and are abundant in many human cell types. ( **BLOCKS TRANSLATION OF MRNA**)

b. **Small interfering RNA** (**siRNA**), sometimes known as **short interfering RNA** or **silencing RNA**, is a class of [double-stranded RNA](http://en.wikipedia.org/wiki/RNA#Double-stranded_RNA) [molecules](http://en.wikipedia.org/wiki/Molecule), 20-25 [base pairs](http://en.wikipedia.org/wiki/Base_pair) in length. siRNA plays many roles, but its most notable is in the [RNA interference](http://en.wikipedia.org/wiki/RNA_interference) (RNAi) pathway, where it interferes with the [expression](http://en.wikipedia.org/wiki/Gene_expression) of specific genes with complementary nucleotide sequence. siRNA also acts in RNAi-related pathways, e.g., as an antiviral mechanism in plants and insects ..



