Biotechnology and Gene Silencing

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Abstract

RNA interference (RNAi) is a system within living cells that helps to control which genes are active and how active they are. Two types of small RNA molecules - microRNA (miRNA) and small RNA interference (siRNA) - are central to RNA interference. RNAs are the direct products of genes, and these small RNAs can bind to specific other RNAs and either increase or decrease their activity, for example by preventing a messenger RNA from producing a protein. RNA interference has an important role in defending cells against parasitic genes – viruses and transposons – but also in directing development as well as gene expiration in general. RNA interference is now a widely used biology research technique that can be applied to both cultured cells and whole animals. RNA interference can be used to selectively reduce the level of expression of a specific protein. Clues to the function of the protein can be obtained by observing changes in cell or organism behavior after knockdown of expression in general.

Key words: Gene Silencing - microRNA - RNA interference) RNAi

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