RNA therapeutic, pendekatan baru dalam terapi gen

Abstrak

Some diseases, such as cancer, hereditary and genetic diseases, as well as viral infectious diseases, have been treated unsatisfied by the conventional therapy so far, and even more, by the gene therapy. Together with the pharmaceutical industries, researchers put their best effort to hunt some molecules that can be more favorable for
such kind of therapy. After a pivotal study reported in May, 2001, it is certain that Ribonucleic acid (RNA) could effectively silence gene expression in mammalian cell line, so it was then proposed in 2004 the term RNA therapeutics. Antisense RNA therapy which came into the stage earlier seemed to be the one that can answer all the
problems in knocking out the unwanted messenger in gene expression. RNA interference (RNAi) concept, which came later in around 2000, began to look like a possible contender. It was reported in some studies that RNAi seems to have some more advantages over both stronger gene-silencing effects and greater ease of use. However, the
main obstacle of all kind of gene therapy is, undoubtedly, on the delivery of this molecule to enter the target cell, and mostly, to where it is needed most inside the body. Some studies on genetic material delivery system have been reported, and their
progress has been discussed.