

MicroRNA: A novel therapeutic tool for allergic and asthmatic disorders

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Asthma is a complex respiratory disorder where interactions between genes and environmental factors play key roles. It has been established that deregulated expression of cytokines, like interleukin-10 (IL-10) and interleukin-13 (IL-13), is critically important. Although the expression of genes is controlled at the transcriptional level, recent evidences indicated a finer level of control at the post-transcriptional level by microRNA. MicroRNAs are 22-25 nucleotides long small RNA species which play critical roles in controlling many pathological conditions including asthma.

Combining *in-silico* observations and molecular experiments, we identified microRNAs which regulate the expression of IL-10 and IL-13. Our recent results indicated that microRNA could be useful in alleviating cellular infiltration, mucus secretion and airway hyper-responsiveness in experimental asthma model. The implication of these results in the context of other diseases including respiratory disorders will be discussed.

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