

Development of Schiff base-based Polymeric Carriers

Hu-Lin Jiang

*(State Key Laboratory of Natural Medicines, Department of Pharmaceutics, China
Pharmaceutical University, Nanjing 210009, PR China)*

Abstract:

In the past several years, gene therapy has received significant attention due to its potential application in the replacement of dysfunctional genes and treatment of acquired diseases. However, naked gene molecules that are negatively charged due to their phosphate groups susceptible to serum nucleases, renal clearance, and non-targeted biodistribution, making it difficult to access the cellular target sites of delivered genes. Therefore, the development of gene carriers, which can be made into nano-sized complexes to protect naked gene molecules, is necessary. Moreover, for safe and efficient gene delivery, gene carriers should overcome the conventional limitations, such as poor stability, short half-life, and low transfection efficiency. Here, we exploited some biocompatible materials based on the Schiff-base for enhancement of transfection efficiency as well as more functionality.

Keywords: gene therapy, biocompatible, polymeric gene carrier.