

多糖核酸複合体を用いた核酸医薬の DDS

(北九州市立大学 国際環境工学部) 櫻井和朗

Polysaccharide/DNA Complexes to Deliver Therapeutic Oligonucleotides
(Department of Chemistry and Biochemistry, University of Kitakyushu) Kazuo Sakurai

Therapeutic oligonucleotides have to be delivered inside of the target cells. Schizophyllan (SPG) is a natural glucan existing as a triple helix in water and as a single chain in alkaline solutions. When homo-polynucleotides such as poly(dA) are added to SPG alkaline solution and subsequently pH is adjusted to be neutral, the single chain of SPG forms a stoichiometric complex with the polynucleotide. We have demonstrated that Dectin-1 recognizes SPG/ODN complexes, and the complex is eventually ingested by APCs.

Keywords : Therapeutic oligonucleotides; $\beta-(1 \rightarrow 3)$ -D-glucan, Drug delivery system

多糖シゾフィラン (SPG) は菌類が産出する中性の β -1,3-グルカである。1 本の核酸と 2 本の SPG からなる多糖-核酸複合体を形成することを見出した。また、マクロファージや樹状細胞といった免疫細胞上には SPG の受容体である dectin-1 発現している。このことから SPG が dectin-1 は発現している免疫細胞への特異的な核酸キャリアになりうる。本講演ではこの多糖核酸複合体の基礎的な特性を紹介する。

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