

mRNA 創薬の今後の展望

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mRNA is a promising modality for vaccines and drugs. Not only the flexibility for designing the nucleic acid sequences, mRNA has advantages such as negligible risk of insertional mutagenesis, availability for any cell type. Now the mRNA is chiefly used for vaccines for infectious diseases and cancer therapy, but also available for various therapeutic purposes. In this presentation, I would like to present the history, the current status, and the future perspective for developing mRNA vaccines and drugs. For that, the mRNA engineering, DDS, and the ideas of medical applications are equally important, requiring interdisciplinary effort.

Keywords : mRNA vaccine, mRNA therapeutics, DDS,

mRNA ワクチン・医薬は、mRNA を用いて「情報」を体内に投与し、ワクチンや治療薬として働くタンパク質を体内で産生させるという、新しいクスの形である。感染症、がんワクチン加え、治療用 mRNA 医薬の開発も期待される。本講演では、mRNA 創薬の経緯や現状を概説し、今後の創薬の方向性を議論したい。そこでは、mRNA 設計、DDS、治療因子（情報）の3要素が等しく重要であり、集学的な取り組みが求められる。