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## **Nippon Shokubai Concludes Agreement with YMC for Joint Development of Purification and Analysis Techniques**

### **Aiming to develop innovative chromatography purification and analysis techniques for long-chain oligonucleotides**

NIPPON SHOKUBAI CO., LTD. (Headquarters: Osaka, Japan, President: Kazuhiro Noda, hereinafter “Nippon Shokubai”) has concluded an agreement with YMC CO., LTD. (Headquarters: Kyoto, Japan, President & CEO: Ryuji Yamamura, hereinafter “YMC”) to jointly develop chromatography purification and analysis techniques for long-chain oligonucleotides (80 or more residues).

Long-chain oligonucleotides are used for nucleic acid aptamers<sup>\*1</sup> with high binding affinity for specific target molecules and for guide RNAs in gene editing technologies such as CRISPR-Cas9<sup>\*2</sup>. A challenge of long-chain oligonucleotides is that their longer chain compared to oligonucleotides, which are generally used for oligonucleotide drugs<sup>\*3</sup> and have around 20 residues, makes purification and analysis difficult. Purification and analysis technologies to allow easy separation of impurities from long-chain oligonucleotides are thus required.

By combining their respective technologies for the synthesis, purification and analysis of oligonucleotides, Nippon Shokubai and YMC will develop innovative purification and analysis techniques for long-chain oligonucleotides. The development of such techniques will facilitate the supply of high purity, high quality oligonucleotides, and by making the results publicly available, the two companies will contribute to upgrading oligonucleotide purification and analysis technologies.

Nippon Shokubai owns the GMP facility for the manufacture of oligonucleotide and peptide APIs. We will support health and wellness of people and contribute to the continuous development of society by promoting the supply of various kinds of oligonucleotide and peptide APIs.

YMC, which owns liquid chromatography analysis technology and purification carriers for oligonucleotide and peptide APIs, mRNA vaccines and gene editing therapy, carries out product development to meet the needs in new separation and purification. The company aims to achieve sustainable production of pharmaceuticals through the development and application of new purification technologies including continuous chromatography technology capable of greatly reducing production costs of oligonucleotide drugs.

\*1 Nucleic acid aptamer: nucleic acid molecule capable of binding a specific target molecule.

\*2 CRISPR-Cas9: Gene modification technology capable of cleaving genome sequences in a particular region.

\*3 Oligonucleotide drugs: Drug consisting of chemically synthesized DNA or RNA derivatives.

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About NIPPON SHOKUBAI CO., LTD.: Nippon Shokubai utilizes the unique technology to manufacture chemicals such as ethylene oxide, acrylic acids, catalysts, superabsorbent polymers. We use chemistry to make the impossible possible, and offer unprecedented solutions to the world, specifically in Environment & Energy, Electronics & Imaging and Daily Use fields. Our corporate mission is "TechnoAmenity: Providing prosperity and comfort to people and society with our unique technology".

For more information: <https://www.shokubai.co.jp/en>

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