

July 9th, 2019

Dear valued customers,

Hokkaido System Science Co., Ltd.

Custom Design & Synthesis of Highly Active Gapmer-Type Antisense Oligonucleotides

Sapporo, Hokkaido, Japan - July 2019 - Hokkaido System Science Co., Ltd. (Sapporo, Hokkaido; hereinafter “HSS”) and Veritas In Silico Inc. (Shinagawa, Tokyo; hereinafter “VIS”) announced a business collaboration agreement to launch a one-stop service for the custom design and synthesis of antisense oligonucleotides (ASOs) from July 2019.

In recent years, nucleic acid medicines have been actively developed both locally and internationally and placed on the market one after another. The improvements in chemical modifications and drug delivery system technologies for ASOs have contributed to creating highly stable and effective therapeutic candidates.

HSS and VIS started a collaboration to provide custom-designed gapmer-type ASOs with bridged nucleic acids at the ends of the oligonucleotides. Although ASOs have been considered difficult to design rationally, VIS has an in silico technology that is pivotal for ASO design. By collaborating with HSS that has more than 30 years of experience in nucleic acid synthesis, we guarantee to meet the demands of researchers who have been seeking to downregulate their gene-of-interest (GOI) and find candidate nucleic acid medicine.

■ASO Design

VIS discovered that the rate-limiting step in mRNA downregulation by ASOs is the binding of ASOs to the target mRNA and confirmed that ASOs should be designed to bind to “unstable structures” on the mRNA, thereby lowering the activation energy for binding to the target mRNA and not to the off-targets. VIS’s ASO design strategy is therefore based on the in silico analyses of unstable structures on the mRNA as promising ASO targets. The ASOs designed in this manner have been shown to be highly active without causing side effects.

■Service Description

VIS designs antisense sequences (approx. 2 weeks) and HSS synthesizes oligos (approx. 16 business days for 30 oligos).

Before ordering for this service, please agree that the intellectual property right for the designed sequences is to be belonged to both the customer and VIS. (No designed sequences are disclosed to the customer by HSS.)

Basically, the service will start after the customer’s affiliation enters into an agreement with VIS.

Commercial companies may be required for other agreements if necessary.

For this news release, please inquire to:

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