Veritas In Silico

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Patent Application for the mRNA-Targeted Nucleic Acid Drugs in the In-house Pipeline

Veritas In Silico Inc. (hereinafter referred to as "VIS") is developing novel mRNA-targeted drugs as part of its In-house Pipeline creation efforts. As previously announced in the News Release titled "Determination of Target Disease for mRNA-Targeted nucleic acid drug for In-house Pipeline," on June 16, 2025, VIS has initiated a disease treatment project using nucleic acid drugs. Subsequently, the project has been progressed, and a substance patent application has been filed for the nucleic acid drugs.

- Title of Invention: Agent for Reducing Expression Levels of Target Transcription Products
- Patent Application Number: JP 2025-266856
- Gene name: p53
- Target disease: Ischemic acute kidney injury (AKI) induced after cardiovascular surgery
- Novelty: First-in-class (no existing approved drug)
- Modality: Nucleic acid drug (ASO[*1])
- Domestic target population: Cardiovascular surgery patients aged 65 or older
- Revenue forecast in Japan: 15 billion yen/year
- Estimated development period: 8-10 years (development schedule to be detailed)
- Development strategy: Approval is expected within short term by targeting patients aged 65 years or older because they would be at the high risk of developing AKI. After approval, line extension for all cardiovascular surgeries will be conducted, then expanded globally. Looking ahead, additional line extension for other ischemic organ injuries will be considered.

VIS has been conducting mRNA-targeted small molecule drug discovery using its proprietary drug discovery platform, aibVIS[*2], with partner pharmaceutical companies. Currently, VIS is conducting mRNA-targeted nucleic acid drug discovery using aibVIS solely. The market of nucleic acid drugs is expected to be a promising segment with the highest growth potential, while small molecule drugs is the largest segment of the pharmaceutical market.

This action is based on VIS' growth strategy to address unmet medical needs with nucleic acid drugs which are suitable for rare diseases. This action is also based on its business strategy to differentiate from competitors by its proprietary aibVIS platform, which is applicable not only to small molecule drug discovery but also to nucleic acid drug discovery.

Ischemic AKI is one of ischemic organ diseases caused by decrease of blood flow during cardiovascular surgery. About 50,000 cardiovascular surgeries are performed annually in Japan, and kidney damage occurs in 15–30% of these cases. VIS believes that prevention of the onset of this condition would be clinically meaningful. This disease has a clearly defined onset period, making it easier to design clinical trials. Additionally, it is possible to achieve statistically significant differences in clinical trials because of its considerable probability of onset.

VIS is planning its line extension for further revenue opportunities by extending indications and expanding into international markets.

The target gene p53 promotes apoptosis[*3] in cells and is known as a gene that suppresses the proliferation of cancer cells. The expression of p53 promotes apoptosis in cancer cells, leading to an effect that inhibits their proliferation. Conversely, in cases of ischemic renal failure, p53 expression is implicated in unexpected apoptosis of renal cells. It is known that inhibiting p53 can prevent renal failure. Phase II clinical trials conducted with a siRNA-drug[*4] candidate under development by a competitor confirmed a significant effect in preventing renal failure through p53 inhibition.

VIS has already obtained a substance patent for nucleic acid drugs targeting p53. Building on its latest findings and technology, VIS has successfully developed novel nucleic acid drugs (ASOs) with enhanced activity, surpassing both the competitor's siRNA-drug candidate and its own substances. This has led to the current patent application.

Additionally, in its December 15, 2025 release titled " Completion of Patent Examination and Patent Grant Procedures for Drug Delivery System "Perfusio"," VIS has announced the completion of the patent examination for the Drug Delivery System[*5]. The combination of its currently patented nucleic acid drug with the "Perfusio" drug delivery system has the potential to offer a treatment method that provides higher efficacy and reduced side effects compared to conventional approaches.

With regard to nucleic acid drugs, it should be noted that manufacturing costs tend to be relatively high. VIS aims to overcome this challenge by establishing cost-effective dosing regimens. The objective will be accomplished through: creating "simple nucleic acid therapeutics" that incorporate QbD[*6] principles to reduce manufacturing costs; minimizing usage via local administration to patients or the implementation of Drug Delivery Systems; and limiting

administration to a single pre-surgical dose. Simultaneously, this administration method is expected to reduce side effects and toxicity. VIS plans to advance drug discovery research by considering characteristics such as nucleic acid drug manufacturing in future studies.

● Comments from Tatsuya SASAKAWA, PhD, Executive Officer and General Manager of Research Strategy Division of VIS

At VIS, we are continually enhancing our drug discovery platform, known as ibVIS® technology, and are currently in the process of transitioning it to its new name, aibVIS. It is with great satisfaction and confidence that our latest proprietary technology has yielded nucleic acid drug candidates that surpass siRNA drugs currently in clinical trials by our competitors.

The experience we have cultivated through our platform business can be fully leveraged in ASO drug discovery. Furthermore, by applying our proprietary drug delivery system, Perfusio, we may be able to deliver new treatment options to patients even faster than previously anticipated.

We will continue to prioritize our in-house drug discovery research and contribute to the realization of a "Warm society filled with Hope."

● Impact on Future Business Performance of VIS

This patent application aligns with VIS' growth strategy and will contribute to its KPIs, "Creation of In-House Pipeline (FY2025)" dated February 13, 2025.

VIS plans to spend R&D expenses in line with the progress of its In-house drug discovery research. Of this amount, the expenditure for FY2025 is already included in the performance forecast, which was announced on October 14, 2025, and no changes are expected to the performance forecast.

In case any matters requiring disclosure arise in the future, they will be promptly disclosed.

● Glossary for Reference

*1 ASO: Antisense Oligonucleotide ; A type of nucleic acid medicine, it is a substance that binds to target mRNA and inhibits protein production or promotes mRNA degradation.

*2 aibVIS: VIS's proprietary drug discovery platform integrates all the digital technologies and drug discovery technologies necessary for mRNA-targeted drug discovery. The ibVIS® has evolved into aibVIS by advancing and enhancing the capabilities of its multiple specialized artificial intelligence (AI) functions. It leverages artificial intelligence (AI) and the supercomputer "Fugaku," it quantifies biological genetic information and biomolecular structures. The application of mRNA structural analysis, informed by physiological conditions, facilitates the expeditious and precise exploration of multiple target structures from any selected mRNA.

*3 apoptosis: A mechanism whereby organisms maintain healthy individuals through the programmed self-destruction of aged or unnecessary cells. This system involves cells shrinking, fragmenting, and being processed for disposal as waste by other cells. It is an essential function for preserving bodily health without causing inflammation.

*4 siRNA-drug: A type of nucleic acid medicine that binds to specific mRNA to promote its degradation. In turn, this prevents the production of disease-causing proteins within the

body and suppresses the onset of disease. It functions as a substance that degrades target mRNA through a mechanism called RNA interference. It is primarily used to treat diseases caused by specific genetic abnormalities, such as hereditary and rare diseases and gaining attention as a novel drug discovery approach that precisely suppresses the function of causative genes.

[*5] Drug Delivery System: This system has been developed to administer the active pharmaceutical ingredients to the intended target organs. Typically, methods such as chemically attaching molecules that selectively reach the target organ to the drug or encapsulating the drug within a lipid bilayer membrane are used. However, we consider physically delivering the drug—by approaching the target organ via an arterial catheter and additionally approaching it via a venous catheter—to be one form of drug delivery system.

[*6] QbD: Abbreviation for Quality by Design. A concept that incorporates considerations for ensuring product quality from the design stage through to manufacturing.

For Further Information, Contact:
● Veritas In Silico Website Inquiry Form : https://www.veritasinsilico.com/en/contact/