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South Korea's iNtRON develops new tech for robot bacteriophage development

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The transposon technology development following the customized CRISPR/Cas system for bacteriophage

iNtRON Biotechnology has established the 2nd generation technology of Robot Bacteriophage development. The random transposon mutagenesis technology can be now applied into the bacteriophage genome in addition to the previously announced the customized CRISPR/Cas system for the bacteriophage engineering improvement. In virtue of the progress, non-essential genes can be identified in the bacteriophage genome, and a gene transfer for granting additional functions to the target site along with genome size control can be done much easily.

iNtRON pursues to not only neutralize viruses using bacteriophages based on PHAGERUS but also apply PHAGERIA and PHAGERIARUS platform technology for the development of immunotherapeutic agents. To enable this, the Company requires to secure more advanced Robot Bacteriophage technology in order to freely design and produce the bacteriophage genome as desired.

Following the previously developed the 'REVERSE' genetics technology, the customized CRISPR/Cas System for bacteriophages, the technology developed this time is a 'FOWARD' genetics technology, which facilitate to find and remove non-essential genes in the bacteriophages. That is, iNtRON has secured the 2nd generation platform technology that can develop a Robot Bacteriophage with desired characteristics by introducing wanted genes into the retained empty spaces from the removed non-essential genes.

The company plans to keep upgrading and accelerating the technology so it could improve genes regardless of its size and gradually expand the types and categories of the improved bacteriophages by selection and removal of the non-essential genes from various natural bacteriophages isolated by iNtRON.