

Drug Discovery Technology (1/3)



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Chemoinformatics	<ul style="list-style-type: none">● High-accuracy, high-speed virtual screening technologies for large-scale virtual libraries● Technology for high-precision docking (SBDD) and simulation (LBDD) of peptide therapeutics● Molecular generation methods for efficiently generating drug-like molecules
Small Molecules Targeting RNA	<ul style="list-style-type: none">● Method for measuring the binding affinity of RNA-targeting small molecules with in vivo relevance● Excludes SPR, ITC, MST, AS-MS and SHAPE● High through put in silico screening technology for RNA● Efficient method for evaluating the three-dimensional structure of RNA
Drug discovery method aimed at covalent binders	<ul style="list-style-type: none">● Fundamental technologies● Evaluation methods for drug discovery
Screening and Synthesis Automation Technologies	<ul style="list-style-type: none">● Operate throughout the day
Protein Production	<ul style="list-style-type: none">● Technology employing DNA vectors to substantially accelerate protein production, applicable to E. coli as well as mammalian and other animal cell systems.● In silico methods for accurately designing mass-enhancing proteins to facilitate Cryo-EM structural determination

Drug Discovery Technology (2/3)



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Peptide Therapeutics	<ul style="list-style-type: none">● Identification of targets suitable for peptide drug discovery, including undruggable targets such as protein–protein interactions● Synthesis technologies aimed at reducing manufacturing costs of peptide therapeutics● Formulation technology for efficient oral or nasal absorption of peptide drugs (e.g. solubilized formulations)
Nucleic Acid Therapeutics	<ul style="list-style-type: none">● Neurodegenerative diseases and motor dysfunction diseases for siRNA therapeutics● Technology for long-term refrigerated storage of mRNA-LNP formulations● Informatics-driven optimization of LNP formulation (delivery efficiency, safety, stability, and tissue selectivity)● Technology to enhance mRNA expression efficiency● Technology for circularizing mRNA
Antibody Therapeutics	<ul style="list-style-type: none">● Technology to deliver antibodies into brain● Discovery of novel target molecules for antibody drug development<ul style="list-style-type: none">- Chronic infectious diseases- Central nervous system diseases- Motor dysfunction diseases

Drug Discovery Technology (3/3)



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Pharmacokinetics	<ul style="list-style-type: none">● In vitro assay for predicting human biliary clearance and enterohepatic circulation● Drug transport and drug-drug interaction (DDI) risk prediction models using human P-gp/BCRP transgenic or knock-in animals● Intracellular drug quantification for PK/PD and MoA insights● Predict the risk of P-gp or BCRP inhibitory effects on drug absorption and disposition
Safety	<ul style="list-style-type: none">● AI system to classify biochemical toxicity data as adverse or non-adverse● In silico toxicity mechanism analysis system● Predicting toxicity target organs using live animal image diagnosis (CT, MRI, etc.)● In vitro model for ocular toxicity evaluation and mechanism analysis● In vitro evaluation system to evaluate damage and regeneration of inner ear hair cells● In vivo evaluation system for ototoxicity using ABR (Auditory Brainstem Response)● Ames avoidance measures and prediction tools in nucleic acid analog drug discovery
Drug Discovery Platform Technologies	<ul style="list-style-type: none">● Method for screening and optimizing enzyme activity based on substrate specificity of metabolite biosynthetic enzymes● Bioinformatics techniques including enzyme sequence data● Data-driven optimization for reproducible scale-up cultivation