



Accelerating Hit-to-Lead Discovery for Oligonucleotide Therapeutics Using an Integrated Platform

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Background: Oligonucleotide therapeutics have emerged as a powerful modality to treat genetic disease. To accelerate oligonucleotide discovery and preclinical development, we have established an end-to-end platform integrating rational design, high-throughput synthesis, and biological screening. We developed a proprietary pipeline to enable *in silico* siRNA and ASO library design. This workflow incorporates transcript isoform analysis, predicted off-target assessment, and species cross-reactivity evaluation, providing reliable guidance for therapeutic design. Coupled with our in-house high-throughput synthesis capabilities, we offer assays to evaluate oligonucleotide potency, off-target effects, cytotoxicity, and immunogenicity under one roof. Assays are customized based on target biology, disease, and oligonucleotide design, and are implemented across multiple delivery formats and cell types. Supported by state-of-the-art facilities and automated workflows, we provide efficient screening to support client decision-making. Collectively, our bioinformatics, synthesis, and screening capabilities provide a one-stop solution for rapid oligonucleotide therapeutics development with optimal potency, minimized off-target effects, and favorable safety profiles.