

RNA wing

RNase H activity

Occupation for function

RNA wing

# WuXi Biology

# **Advancing Discovery of Oligonucleotide Drugs**



Preclinical Candidate Synthesis (mmol)

20<sup>+</sup> classes of oligonucleotide

Up to 138-nt long oligonucleotide

conjugates delivered

OP100<sup>™</sup>, Oligo Synt<sup>™</sup>, and Oligo Pilot<sup>™</sup>

40<sup>+</sup>ribose & 10<sup>+</sup>backbone modifications

Lead Optimization 10-15 oligonucleotides | 5 - 200 mg

5-10 oligonucleotides — 'Leads'

Pre-PCC Selection 5-10 oligonucleotides | 1 g

PCC Selection 1-2 oligonucleotides | 30 g

PCC

sequences in patent analysis

10<sup>+</sup> modification patterns

designed and explored



# WuXi Biology

## In Vitro Evaluation of Efficacy and Delivery

#### **Cell lines**

**1500+** cell lines, patient-derived fibroblasts, engineered cell lines, *etc*.

#### **Primary cells**

Primary hepatocytes from human, mouse, rat, dog and monkey. Other primary cells such as neurons, *etc.* 

#### **Reporter cells**

psiCHECK2 reporter, splicing reporter

#### **iPSCs**

Neurons, cardiomyocytes, etc.

#### Stability

Plasma, tissue homogenate (liver, brain), RNase EMSA, LC-MS/MS, HPLC, SL-PCR

#### mRNA Expression

RT-qPCR, ddPCR, bDNA, capillary electrophoresis, transcriptome profiling, RISC loading



# **8 8**

Protein ELISA, Luminex, MSD, CBA, FACS,

Western, Capillary western and more

Functional assays: Customized

## **Off-target and Safety Assessments**

#### **Off-target profiling**

*In silico* analysis: Prediction of potential off-targets

**3'-tag-seq, bulk RNA profiling:** *In vitro* or *ex vivo* evaluation of potential off-targets **psiCHECK reporter:** *In vitro* validation of

potential off-target



#### In vitro immunogenicity assays



Cytokine release in PBMC: Multiple species and comprehensive cytokine profiling methods, including MSD and Luminex High-throughput BJAB assay: RT-qPCR readout

#### **Cytotoxicity assays**

Abundant cell resources: Primary cells, cell lines, engineered cells, etc.

Multiple readouts: CellTiter-Glo, LDH assay, caspase-Glo3/7 and more



## In Vivo PK/PD Assessments

#### Efficacy

#### PK and PD assessments in mouse

- Hydrodynamic injection (HDI) mouse model
- AAV mouse model
- Transgenic mouse model
- Cell transplant model

#### Disease models for functional assessment in mouse and NHPs

- Neurodegenerative disease
- Metabolism & liver disease
- Ophthalmic disease
- Ear disease
- Infectious disease





#### Delivery

#### In vivo sampling

 Blood, CSF (+/- cannula), aqueous & vitreous humor, biopsy

#### In vivo imaging

#### **Organ collection**

 Bulk analysis and single cell analysis for PK and PD assessment, DNA/RNA profiling

#### **Delivery tool development**

LNP, peptide conjugate and more



### **Contact Us**

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