ROCKLAND

Visit ModDetect Webpage

ModDetect™ Panels

Localize & quantify nucleic acid modifications independent of sequence

The first specialty reagent panels designed to streamline development of oligonucleotide therapeutics, mRNA vaccines, and more.

Targeted RNA Therapeutic Modalities

ModDetect panels are designed to facilitate the detection of specific chemical modifications independent of the sequence or location of the modification and can be used to evaluate a variety of RNA Tx modalities and nucleic acid structures.

Oligonucleotide Structures

Anti-Sense Oligonucleotide (ASO)

Small Interfering RNA (siRNA)

Micro RNA (miRNA)

Aptamer

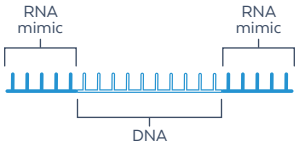
Nucleic Acid Configurations

Single Stranded RNA

Double Stranded RNA

DNA-RNA Hybrids

OTx Drug Platforms



RNA-DNA Heterosubstrate (Gapmer)

ModDetect™ Panels as Analytical Tools

The ModDetect panels serve as analytical tools against different types of nucleic acid targets including modified backbones and 2'-O ribose moieties. Our in-house development ensures supply chain security and respect of client confidentiality and intellectual property.

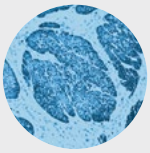
ADME (Absorption, Distribution, Metabolism, Excretion)

Discovery	Pre-Clinical / Clinical / Non-Clinical

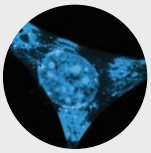
ELISA/ADA & Immunogenicity Studies

IP/Protein Binding

In Vitro Cell Culture/ Potency Studies



IHC/ Biodistribution



IF/Intracellular Localization

✔ PATENT PENDING

About the ModDetect™ Panels

- Includes (5) reagents for testing and selection based on performance with client drug
- Designed for use in various immunoassays, such as ELISA, IF, and IHC
- Includes (3) secondary antibodies
- Unconjugated and biotin-conjugated panels available

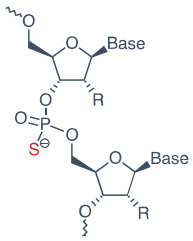
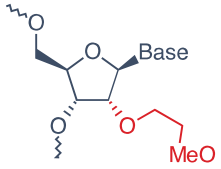
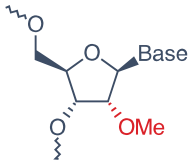
Low on time or resources? Our team can perform *in vitro* assay evaluation studies using our ModDetect panels to determine the best reagent for detecting your oligonucleotide candidates.

Time Saving
Save 9-12 months in drug development with faster candidate triage

Less Risk
Several uniquely-specific reagents are provided for multiple immunoassays

Cost Saving
Eliminate the need for custom antibody development

Specialty Reagent Panels

Phosphorothioate (PS)	Methoxyethyl (MOE)	2'-O-Methyl (OMe)
		

ModDetect™ Panel Results

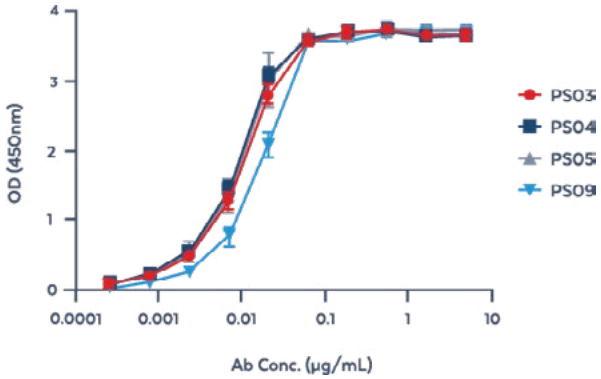


Figure 1. ELISA of a subset of PS specialty reagents reactive with an FDA-approved gapmer. Streptavidin-coated plates were coated in duplicate with 5 pmol/well of 5'Biotin-MOE-PS Gapmer. The starting dilution was 5 µg/mL and the X-axis represents the Log10 of a 3-fold dilution. This titration is a 4-parameter curve fit where the IC50 is defined as the titer. PS03 IC50: 11 ng/mL [●], PS04 IC50: 9 ng/mL [■], PS05 IC50: 10 ng/mL [▲], PS09 IC50: 18 ng/mL [▼]. Assay performed using Rabbit Anti-Mouse IgG HRP conjugated (#610-403-C46) at 1:8,000 and TMB substrate (#TMBE-1000).

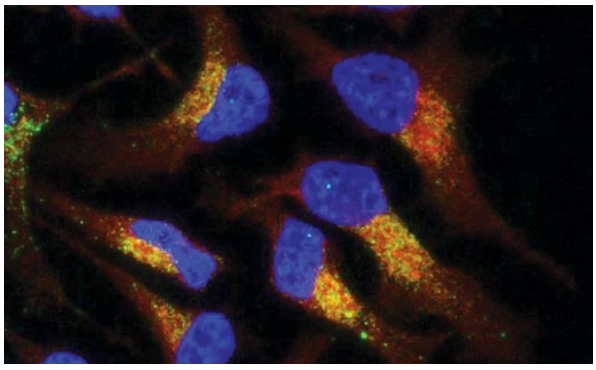


Figure 2. IF image of an LNA/PS ASO in HeLa cells using ModDetect PS04. HeLa cells were fixed with PFA and 100 nM of a 16-mer LNA/PS oligonucleotide was delivered via gymnosis. Cells were stained with alpha-tubulin (red), DAPI (blue), and ModDetect PS04 (green). Punctate cytoplasmic staining of ASO is consistent with endosomal storage of ASO within the cell, as expected for this Oligo Tx drug. (Image courtesy of Nucleic Acid Therapeutic Accelerator)