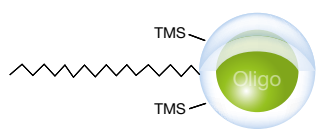
# Experience the Power of Ultra-High Recoveries + Best-in-Class Specificity

## Oligonucleotide Analysis

### Clarity OTX™ is the industry gold standard for oligonucleotide sample prep

- Ultra-high recoveries for even low nanogram extractions
- Simple 15-minute, 4-step protocol
- Mixed-mode SPE removes salt, sugar protein, and other biological interferences




### Proven reliability for analytical characterization of oligonucleotides

- Coreshell morphology improves both mass transfer kinetics and chromatographic efficiency
- BioTi bio-inert titanium hardware mitigates impact of non-specific interactions to improve recovery and peak shape
- Stable from pH 1-12 to accommodate flexible method development demands

## DIVERSE SAMPLES

### Oligo Types

- DNA
- Aptamers
- RNAi/siRNA
- Thioates
- Lipid-conjugates
- Liposome encapsulated

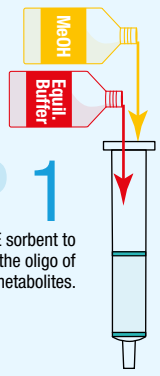
### Sample Types

- Plasma
- Serum
- Urine
- Tears
- Saliva
- Tissue

## SAMPLE PREP

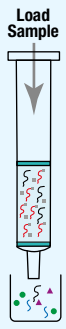
The Lysis-Loading buffer was designed with the optimal blend of chaotrope and detergent in order to facilitate the selective binding of oligo therapeutics and metabolites


Oligo & metabolites · Genomic DNA · Salts · Lipids · Sugars · Proteins



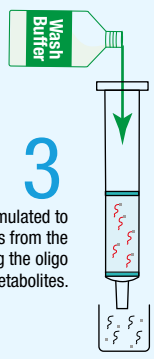

**STEP 1**

Preparation of SPE sorbent to selectively retain the oligo of interest and its metabolites.



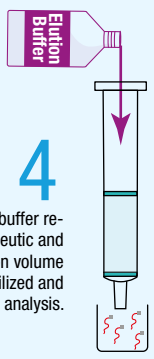

**STEP 2**

Salts, sugars, large proteins and genomic DNA flow through the cartridge. The oligo of interest, proteins, and lipids bind to the sorbent via a mixed-mode, weak anionic interaction.




**STEP 3**

The wash buffer is formulated to strip off lipids and proteins from the sorbent, while not disturbing the oligo therapeutics and its metabolites.



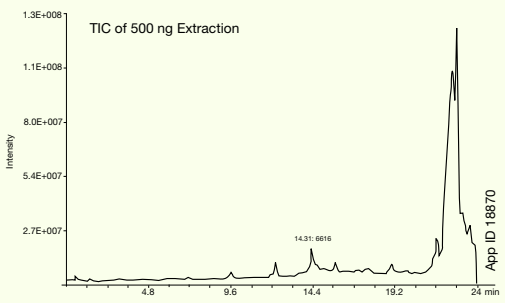

**STEP 4**

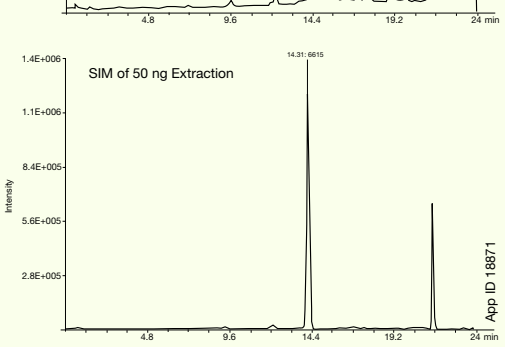
The addition of the Elution buffer releases the target oligo therapeutic and its metabolites. The elution volume can be dried down or lyophilized and reconstituted prior to LC/MS analysis.

## ANALYSIS

### Sensitivity Study in Plasma

Due to high recoveries of parent oligonucleotides and their metabolites, detection down to picomole ranges are possible.

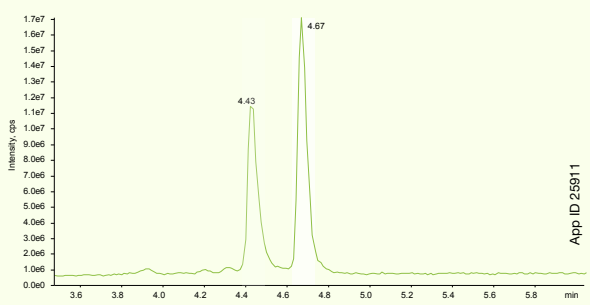


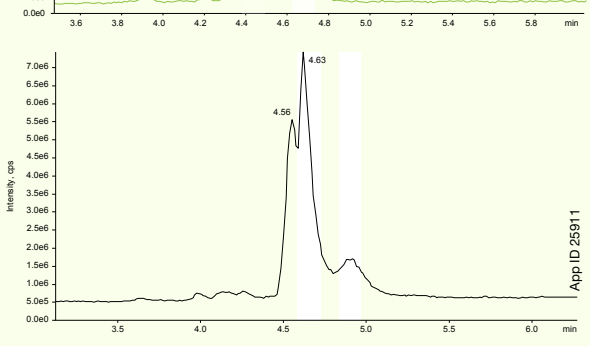




**Columns:** Clarity 3 µm Oligo-RP C18
**Dimensions:** 50 x 4.6 mm
**Part No.:** 00B-4441-E0
**Mobile Phase:** A: 50 mM TEAA, pH 7.5 / 5 % Acetonitrile
B: Methanol
**Gradient:** A/B (90:10) to A/B (40:60) in 20 min
**Flow Rate:** 1 mL/min
**Detection:** UV @ 260 nm
**Sample:** 25nt DNA Oligonucleotide

### LC-MS Analysis of siRNA using BioTi™ UHPLC Hardware

Bioinert hardware clearly separates sense and anti-sense strands while stainless steel alternatives are susceptible to non-specific interactions that impact reliable quantitation.




**Columns:** Biozen 2.6 µm Oligo (BioTi™)
Clarity 2.6 µm Oligo-XT (stainless steel)
**Dimensions:** 100 x 2.1 mm
**Part No.:** 00D-4790-AN (Biozen)
00D-4746-AN (Clarity)
**Mobile Phase:** A: 4 mM Triethylamine in Water + 12.5 mM Hexafluoro-2-propanol
B: 4 mM Triethylamine in Methanol + 12.5 mM Hexafluoro-2-propanol

**Gradient:**

| Time (min) | %B |
|---|---|
| 5 | 5 |
| 2 | 5 |
| 16 | 90 |
| 16.1 | 95 |
| 20 | 95 |
| 20.1 | 5 |

**Flow Rate:** 0.3 mL/min
**Injection Volume:** 2 µL (12.5 ng)
**Temperature:** 55°C
**Instrument:** Shimadzu® LC-20A Prominence®
**Detection:** TOF-MS
**Detector:** SCIEX™ TripleTOP® 6600

## Clarity OTX SPE Ordering Information

| Part No. | Description | | Unit |
|---|---|---|---|
| KS0-8494 | Clarity OTX Starter Kit- Tubes | Includes: 100 mg/3 mL cartridges (x50) Lysis-loading buffer (100 mL) Equilibration buffer (250 mL) Wash buffer (350 mL) Elution buffer (100 mL) | ea |
| KS0-9253 | Clarity OTX Starter Kit- 96-Well Plate | 100 mg/ 96-well plate (x1) Lysis-loading buffer (100 mL) Equilibration buffer (250 mL) Wash buffer (350 mL) Elution buffer (100 mL) | ea |
| 8M-S103-4GA | Clarity OTX Microelution Well Plate | 2 mg/ well | 1/box |
| 8E-S103-CGA | Clarity OTX Well Plate | 25 mg/ well | 1/box |
| 8E-S103-EGA | Clarity OTX Well Plate | 100 mg/ well | 1/box |
| 8B-S103-EBJ | Clarity OTX Cartridge | 100 mg/3 mL | 50/box |
| 8B-S103-HCH | Clarity OTX Cartridge | 500 mg/6 mL | 30/box |
| AL0-8579 | Clarity OTX Lysis-Loading Buffer V2.0 | 1 L | ea |

## Biozen Oligo LC Ordering Information

| | 50 x 2.1 | 100 x 2.1 | 150 x 2.1 |
|---|---|---|---|
| **Biozen 1.7 µm Oligo** | 00B-4791-AN | 00D-4791-AN | 00F-4791-AN |
| **Biozen 2.6 µm Oligo** | 00B-4790-AN | 00D-4790-AN | 00F-4790-AN |

| | 50 x 4.6 | 100 x 4.6 | 150 x 4.6 |
|---|---|---|---|
| **Biozen 1.7 µm Oligo** | — | — | — |
| **Biozen 2.6 µm Oligo** | 00B-4790-E0 | 00D-4790-E0 | 00F-4790-E0 |

| | for 2.1 mm /3pk | for 4.6 mm /3pk | Holder ea |
|---|---|---|---|
| **Biozen 1.7 µm Oligo** | AJ0-9820 | AJ0-9822 | KJ0-9000 |
| **Biozen 2.6 µm Oligo** | AJ0-9820 | AJ0-9822 | KJ0-9000 |

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