DNA Aptamer against L-Lactate

SKU# APT-074: DNA Aptamer against L-Lactate

Background

L-lactate is a central metabolite of glycolysis and an important analyte in metabolic, fermentation and biosensor research. APT-074 DNA aptamer binds L-lactate preferentially over D-lactate. Binding was verified and characterized by isothermal titration calorimetry (ITC) and fluorescence strand displacement; magnesium ions are required for binding.

Aptamer type: Single-stranded DNA (ssDNA)

Aptamer length: 46 nucleotides (46 nt)

Affinity Kd: 113 μM (ITC); ~90 μM (fluorescence strand-displacement assay)

Binding notes: Mg2+ dependent; results may vary with sequence construct, labeling, ionic conditions and assay format.

Kit contents

The following components are included in the Kit.

	Component	Quantity
APT-074-10	Single-stranded DNA, lyophilized powder	10 nmol
APT-074-30	Single-stranded DNA, lyophilized powder	30 nmol

- Store at -20°C; reagents are guaranteed stable for 12 months when properly stored.

References

Zia, D. S., Chen, Y., and Liu, J. d-Lactate SELEX Yielding Aptamers Binding Stronger to l-Lactate: Implication of Intrinsic Chiral Preference. *Analytical Chemistry*, 2026, 98(10):7515-7523. DOI: 10.1021/acs.analchem.5c07149.

Research use only. Reported affinity reflects experimental constructs and conditions, not independent performance certification of the unmodified supplied oligonucleotide. Not for clinical diagnosis.