DNA Aptamer against *E. coli* O55:B5 Lipopolysaccharide (LPS)

SKU# APT-076: DNA Aptamer against Escherichia coli O55:B5 Lipopolysaccharide (LPS)

Background

Lipopolysaccharide (LPS) is a major outer-membrane component of Gram-negative bacteria. The APT-076 DNA aptamer was identified using E. coli O55:B5 LPS and subsequently used in electrochemical and colorimetric LPS biosensors. A Kd of 12 nM has beenmeasured for this DNA aptamer by SPR. Its selectivity for O55:B5 over other bacterial LPS types is not yet established.

Aptamer type: Single-stranded DNA (ssDNA)

Aptamer length: 86 nucleotides (86 nt)

Affinity Kd: 12 nM (SPR)

Binding notes: Selected against E. coli O55:B5 LPS; assay response depends on buffer, immobilization and chemical modifications. No serotype-exclusive binding claim.

Kit contents

The following components are included in the Kit.

	Component	Quantity
APT-076-10	Single-stranded DNA, lyophilized powder	10 nmol
APT-076-30	Single-stranded DNA, lyophilized powder	30 nmol

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

References

Kim, S.-E., Su, W., Cho, M., Lee, Y., and Choe, W.-S. Harnessing aptamers for electrochemical detection of endotoxin. Anal. Biochem. 2012, 424(1):12-20. DOI: 10.1016/j.ab.2012.02.016. Jiang, J., et al. Int. J. Biol. Macromol. 2022, 223:231-239.

Jiang, J., et al. (2022). Simple and fast colorimetric detection of lipopolysaccharide based on aptamer and SYBR Green I mediated aggregation of gold nanoparticles. *International Journal of Biological Macromolecules*, 223, 231–239.

For research use only. Not intended for clinical diagnosis, therapeutic use, or regulated endotoxin-release testing.