DNA Aptamer against D-Glucose

SKU# APT-075: DNA Aptamer against D-Glucose

Background

D-glucose is a major carbohydrate used in cellular energy metabolism and biochemical research. Fusion BioLabs provides a natural DNA aptamer selected for glucose recognition. The DNA aptamer with an apparent Kd of approximately 10 mM using a fluorescence strand-displacement assay. Binding and response depend on ionic and assay conditions.

Aptamer type: Single-stranded DNA (ssDNA)

Aptamer length: 40 nucleotides (40 nt)

Published D-glucose Kd: approximately 10 mM (fluorescence strand-displacement assay)

Binding notes: Na^{+} or Mg^{2+} supports binding; reported response is assay-dependent. D- vs L-glucose selectivity has not been established.

Kit contents

The following components are included in the Kit.

	Component	Quantity
APT-075-10	Single-stranded DNA, lyophilized powder	10 nmol
APT-075-30	Single-stranded DNA, lyophilized powder	30 nmol

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

References

Nakatsuka, N., et al. (2018). Aptamer-field-effect transistors overcome Debye length limitations for small-molecule sensing. Science, 362(6412), 319–324. https://doi.org/10.1126/science.aao6750

Lu, C., Huang, P.-J. J., Zheng, J., and Liu, J. (2022). 2-Aminopurine Fluorescence Spectroscopy for Probing a Glucose Binding Aptamer. ChemBioChem, 23, e202200127. https://doi.org/10.1002/cbic.202200127.

For research use only. Not intended for clinical diagnosis, blood glucose monitoring, or therapeutic use.