ALPHA DIAGNOSTIC INTERNATIONAL

Product Data Sheet

Cat#: AD-103-U
Cat#: AD-103-B, Biotin labeled
Cat#: AD-103-F, FITC labeled

Product Description: Adenosine

Aptamer Type: DNA

Sequence: 5'-ACTCATCTGTGAGACTCACTATAGGAAGAGATGTCAACTCGTGCACGAGTTGACATCTCTTCTCCGAGCCGGTCGAAATATTGGAGGAAGCTCGAGCTGGAGGAAAAGTGAGTCTCACAGATGAGT-3'; 126-mer

Size 100 nM

Mol. Wt: 39076.43 g/mole

Purity: >95%

Affinity: 1 mM (reported value)

Comments: n/a

Notes: Based on aptazyme directed assembly of gold particles a calorimetric adenosine biosensor is reported where 8-17 DNAzyme with an adenosine aptamer motif that can modulate the DNAzyme activity through allosteric interactions depending on the presence of adenosine. In the absence of adenosine, the aptazyme is inactive and the substrate strands can serve as linkers to assemble DNA-functionalized 13-nm-diameter gold nanoparticles, resulting in a blue color. However, the presence of adenosine activates the aptazyme, which cleaves the substrate strand, disrupting the formation of nanoparticle aggregates. A red color of separated gold nanoparticles is observed.

References: Liu and Lu. "Adenosine-Dependent Assembly of Aptazyme-Functionalized Gold Nanoparticles and Its Application as a Colorimetric Biosensor." Analytical Chemistry, 76 (2004): 1627-1632.

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