

APTAMER INFORMATION

Dengue Type 2 NS1 aptamer_3 C07 (Oligo #534)

1a. Description:

- Identifiers: 3 C07 (Oligo # 534)
- Number of DNA nucleotides: 32 bases (without 3'-6T), 38 bases (with 3'-6T)
- Molecular weight (includes 3'-6T and biotin): 12,116 g/mol
- Target for selection: **Dengue2 NS1 protein**

Aptamer was selected from a randomized 32-mer library against Dengue Type 2 NS1 protein. Proprietary methods were then used to select the aptamer.

Aptamer folding instruction before use:

Once the aptamer is in its working concentration, it needs to be heated to 85-90 °C for 2 minutes, and then cooled to room temperature before use.

1b. Validation data with Dengue2 NS1 protein by BLI (Bio-Layer Interferometry) method:

- Immobilized Ligand: Biotinylated Dengue2 aptamer_3C07 (Oligo # 534)
- Analyte: Dengue Type 2 NS1 protein
- Buffer used for validation: 1X PBS pH 7.4

1c. Kinetics Screening Assay using Streptavidin Biosensors:

We validate the binding data by single reference method.

- Single reference data: All curves are referenced to a sensor dipped in buffer alone (no protein) (see Figures 1, 2 and Table 1).

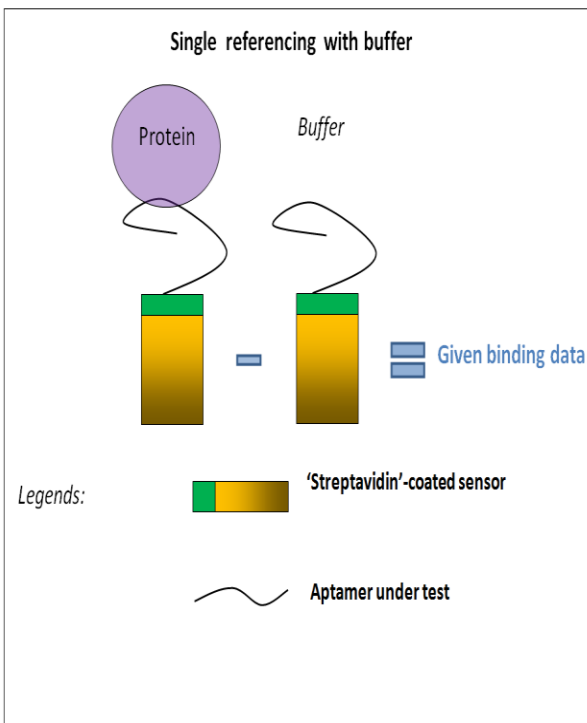


Figure 1. Diagram showing aptamer: protein binding validation scheme.

1d. Single reference data:

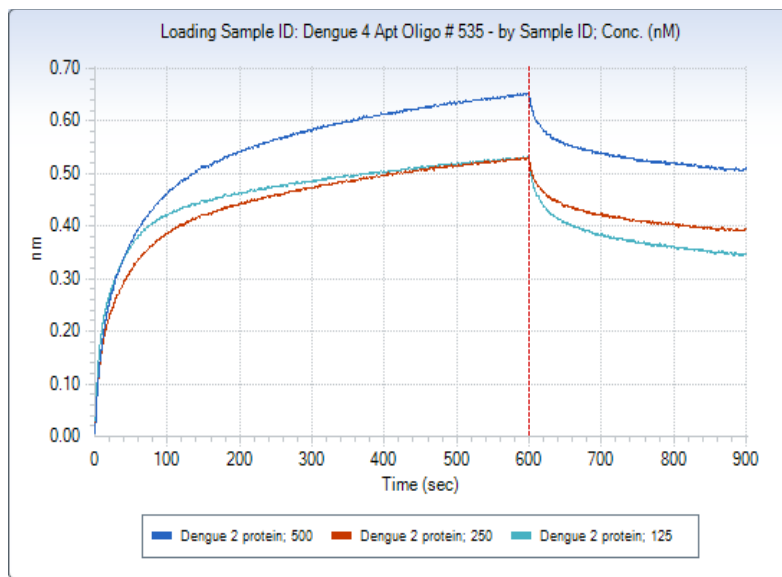


Figure 2. Association and dissociation graph of 1:1 fitting model of Dengue aptamer 3C07 (biotinylated) to Dengue Type 2 NS1 protein concentrations 500, 250 and 125 nM, by single reference method.

Table 1. K_d , R^2 and χ^2 values by Local fitting for single reference method. **Avg K_d = 21 nM**

Immobilized Aptamer	Analyte	Conc. (nM)	Response	K_d (M)	Full R^2	Full χ^2
Dengue aptamer #534	Dengue Type 2 NS1 protein	500	0.64	3.44E-08	0.940441	0.54772
Dengue aptamer #534	Dengue Type 2 NS1 protein	250	0.6204	1.89E-08	0.925491	0.586552
Dengue aptamer #534	Dengue Type 2 NS1 protein	125	0.6842	9.84E-09	0.911872	0.94407