

## APTAMER INFORMATION

### Fibronectin aptamer #603\_47-G06

#### 1a. Description:

- Identifiers: 47-G06 (Oligo# 603)
- Number of DNA nucleotides: 40 bases (without 3'-6T), 46 bases (with 3'-6T)
- Molecular weight (includes 3'-6T and amine): 14,305.4 g/mol
- Target for selection: **Fibronectin from bovine plasma, Sigma (Cat #F4759)**

Aptamer was selected from a randomized 40-mer library against Fibronectin 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.

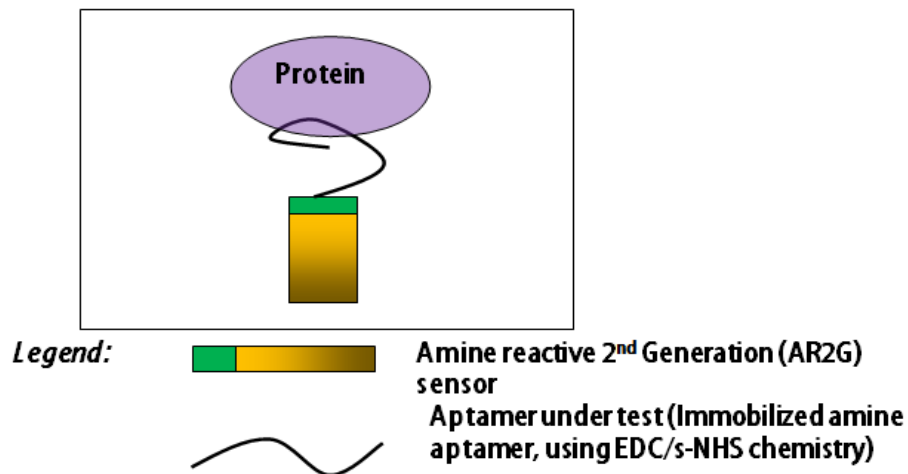
#### 1b. Validation data with Fibronectin protein by BLI (Bio-Layer Interferometry) method:

- Immobilized Ligand: Fibronectin aptamer #603 with 3'-6T and amine
- Analyte: Human Fibronectin, Advanced BioMatrix, San Diego, CA [Part No. 5050]
- Buffer used for validation: 20 mM Tris, 100 mM NaCl, 0.005% Tween20 in nuclease free water, pH 7.4

#### 1c. Kinetics Screening Assay using Amine reactive 2<sup>nd</sup> generation (AR2G) Biosensors:

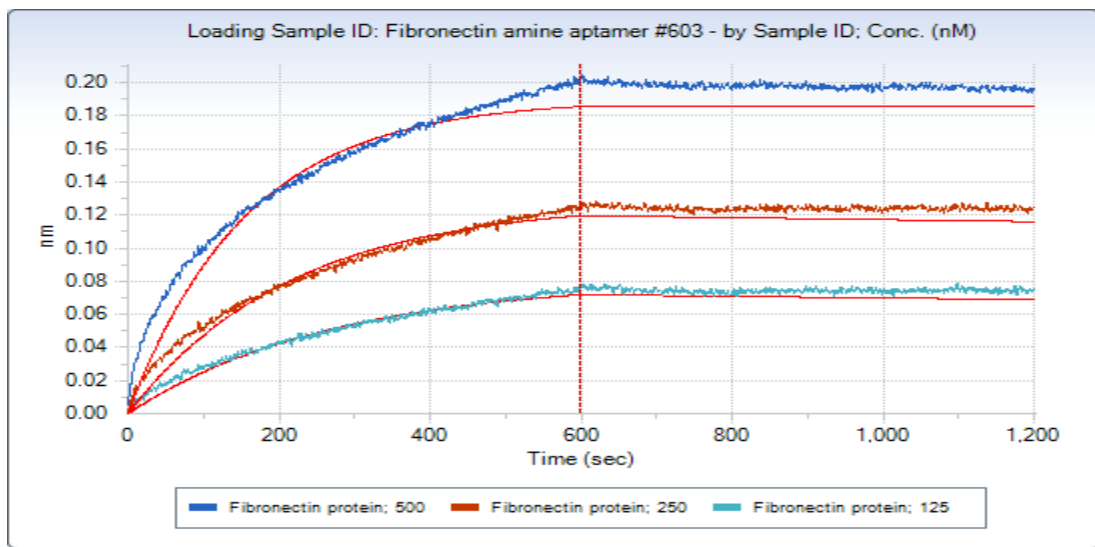
We validate the binding data by single reference method.

- 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 Fibronectin aptamer #603 to Fibronectin protein concentrations 500, 250 and 125 nM, by single reference method.



**Table 1.**  $K_d$ ,  $R^2$  and  $\chi^2$  values by Local fitting for single reference method. **Avg  $K_d = 1.74$  nM**

Immobilized Aptamer	Analyte	Conc. (nM)	Response	$K_d$ (M)	Full $\chi^2$	Full $R^2$
Fibronectin amine aptamer #603	Fibronectin protein	500	0.2	5.08E-11	0.075613	0.924154
Fibronectin amine aptamer #603	Fibronectin protein	250	0.124	2.80E-09	0.014453	0.962353
Fibronectin amine aptamer #603	Fibronectin protein	125	0.0741	2.38E-09	0.004639	0.964343

