



## APTAMER INFORMATION

### Crystallin AB aptamer #347

#### 1a. Description:

- ***Identifiers:*** Oligo# 347
- ***Number of DNA nucleotides:*** 38 bases (without 3'-12T), 50 bases (with 3'-12T)
- ***Molecular weight (including 3'-12T and biotin):*** 15,783.4 g/mol
- ***Target for selection:*** Crystallin AB, Mouse Novus Biologicals (Cat #NBC1-18352)

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 Crystallin AB protein by BLI (Bio-Layer Interferometry) method::

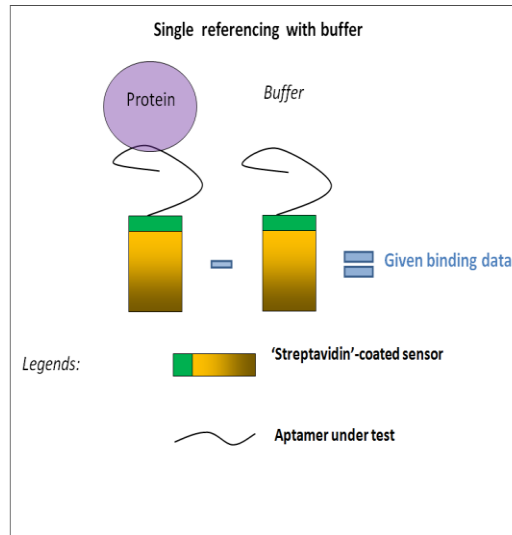
- ***Immobilized Ligand:*** Crystallin AB aptamer #347 with 3'-12T and biotin
- ***Analyte:*** Crystallin AB protein
- ***Buffer used for validation:*** 20 mM Tris, 100 mM NaCl, 0.005% Tween20 in nuclease free water, pH 7.4

#### 1c. Kinetics Screening Assay using Streptavidin Biosensors:

We validate the binding data by single reference method.

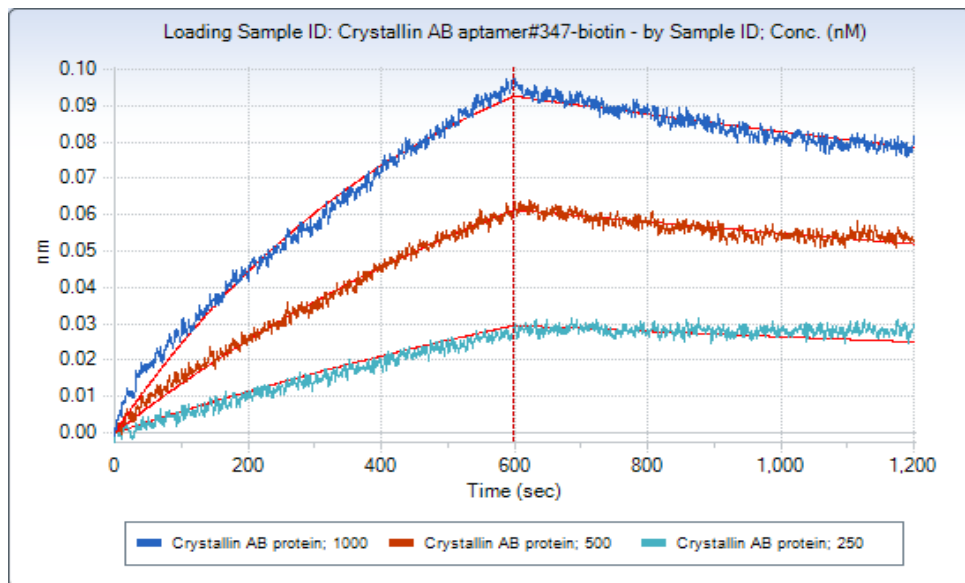
- ***Single reference data:*** All curves are referenced to a sensor dipped in buffer alone (no protein) (see Figures 1, 2 and Table 1).





**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 Crystallin AB aptamer #347 to Crystallin AB protein concentrations 1000, 500 and 250 nM, by single reference method.



**Table 1.**  $K_d$ ,  $R^2$  and  $\chi^2$  values by Local fitting for single reference method. **Avg  $K_d$  = 152 nM**

Immobilized Aptamer	Analyte	Conc. (nM)	Response	$K_d$ (M)	Full $\chi^2$	Full $R^2$
Crystallin AB Biotin aptamer #347	Crystallin AB	1000	0.0953	1.52E-07	0.012976	0.994903
Crystallin AB Biotin aptamer #347	Crystallin AB	500	0.0609	1.52E-07	0.012976	0.994903
Crystallin AB Biotin aptamer #347	Crystallin AB	250	0.0271	1.52E-07	0.012976	0.994903

