



## APTAMER INFORMATION

### IL-18 aptamer #408

#### 1a. Description:

- Identifiers: Oligo #347
- Number of DNA nucleotides: 40 bases (without 3'-6T); 46 bases (with 3'-6T)
- Molecular weight (including 3'-6T and biotin): 15,783.4 g/mol
- Target for selection: **Human Interleukin 18, Novus Biologicals, (Cat #NBC1-20152)**

Aptamer was selected from a randomized 40-mer library against IL-18. 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 IL-18 protein by BLI (Bio-Layer Interferometry) method::

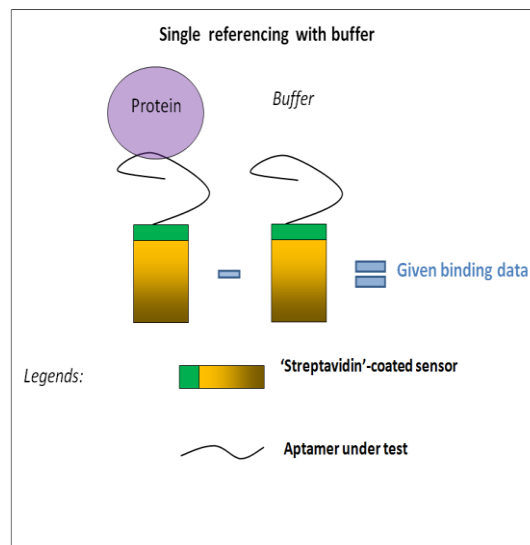
- Immobilized Ligand: IL-18 aptamer #408 with 3'-6T and biotin
- Analyte: IL-18
- Buffer used for validation: 20 mM Tris, 100 mM NaCl, 0.005% Tween20 in nuclease free water, pH 7.4

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

We validate the binding data by single reference method.

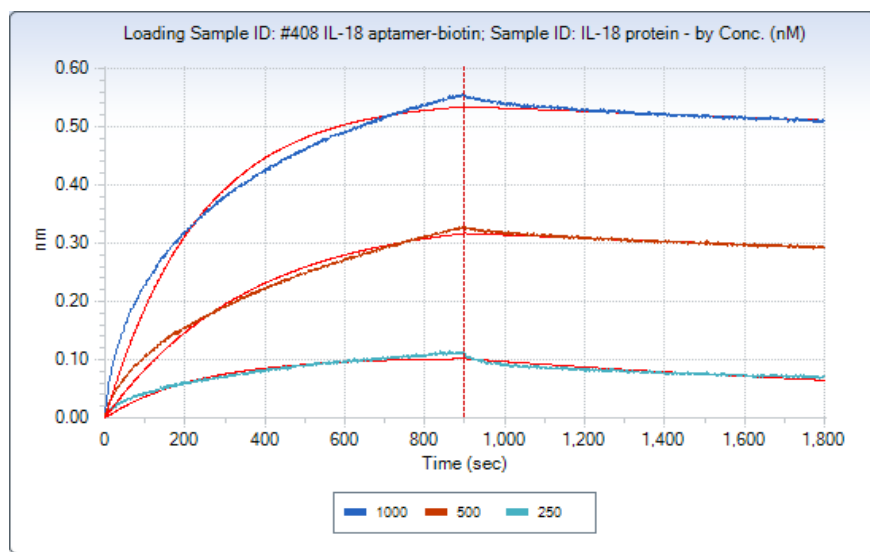
- Single reference data: All curves are referenced to a sensor dipped in buffer alone (no protein) (see Figures 1, 2 and Table 1).





**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 IL-18 aptamer #408 to IL-18 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  $K_d$  = 20.4 nM**

Immobilized Aptamer	Analyte	Conc. (nM)	Response	$K_d$ (M)	Full $\chi^2$	Full $R^2$
IL-18 Biotin aptamer #408	IL-18	1000	0.5535	1.18E-08	0.977166	0.463465
IL-18 Biotin aptamer #408	IL-18	500	0.3258	1.65E-08	0.987345	0.115555
IL-18 Biotin aptamer #408	IL-18	250	0.1114	3.30E-08	0.941923	0.038831