

ATW0022

Aptamer to Human IL-18

Selection Information

Target for Selection: Recombinant human Interleukin-18 (IL-18 / IL-1F4) protein expressed in *E. coli*, Novus Biologicals, Cat# NBC1-21052

Number of DNA Nucleotides: 40

Aptamers were selected from a randomized Base Pair 40-mer DNA library against the target molecule. Proprietary methods were used to select this specific aptamer sequence.

Affinity Determination

Affinity Determination Method: Bio-Layer Interferometry analysis (BLI)

Buffer Used for Affinity Determination: 20mM TRIS, 100mM NaCl, 0.005% Tween 20 in nuclease-free water, pH 7.4

Aptamer Modification for Affinity Determination: 3' 6T spacer and biotin

Average K_D : 20.4 ± 1.3 nM

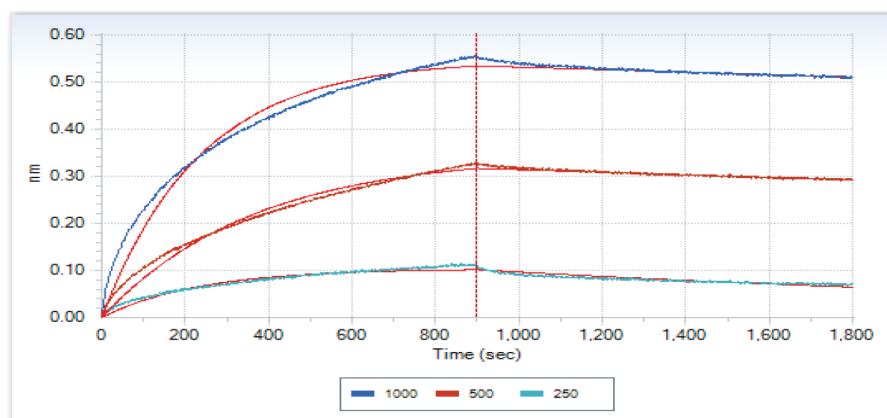


Figure 1. Aptamer-IL-18 Binding

Association and dissociation graph of 1:1 fitting model of IL-18 aptamer to IL-18 concentrations 1000, 500 and 250 nM, by single reference method

Table 1. K_D , R^2 , and χ^2 values by local fitting for single reference method						
Immobilized Aptamer	Analyte	Conc. (nM)	Response	K_D (M)	Full χ^2	Full R^2
IL-18 Biotin Aptamer	IL-18	1,000	0.5535	1.18E-08	0.977166	0.463465
IL-18 Biotin Aptamer	IL-18	500	0.3258	1.65E-08	0.987345	0.115555
IL-18 Biotin Aptamer	IL-18	250	0.1114	3.30E-08	0.941923	0.038831

Aptamer Folding

For optimal binding, aptamers must be folded into their tertiary structure prior to use. Once the aptamer is at its working concentration, heat to 90-95°C for 5 minutes, then cool to room temperature (~15 minutes)