APTAMER INFORMATION
Hsp27 aptamer E05 # 481

1a. Description:

- *Identifiers*: E05 (Oligo#481)
- *Number of DNA nucleotides*: 40 bases (without 3′-6T); 46 bases (with 3′-6T)
- *Molecular weight (including 3′-6T and biotin):* 14,747.7 g/mol
- *Target for selection:* **Heat Shock Protein 27 (hsp27), Human Recombinant [Proscpec, cat# HSP-027]**

Aptamer was selected from a randomized 40-mer library against hsp27 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 hsp27 protein by BLI (Bio-Layer Interferometry) method:

- *Immobilized Ligand:* hsp27 aptamer #481 with 3′-6T and biotin
- *Analyte:* hsp27 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:

- Referenced data: All curves are referenced to a quenched sensor dipped in buffer alone (no analyte) (see Figure 1 and Table 1).

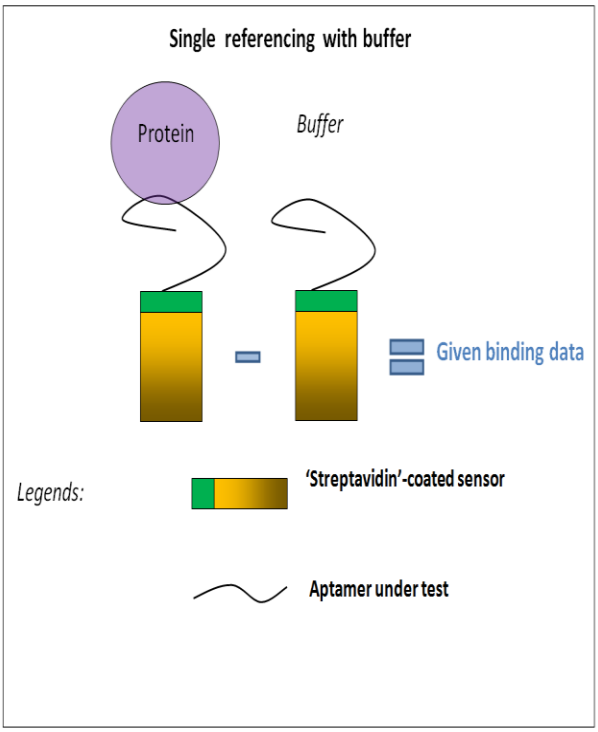

Figure 1. Diagram showing aptamer: protein binding validation scheme.

1d. Referenced data:

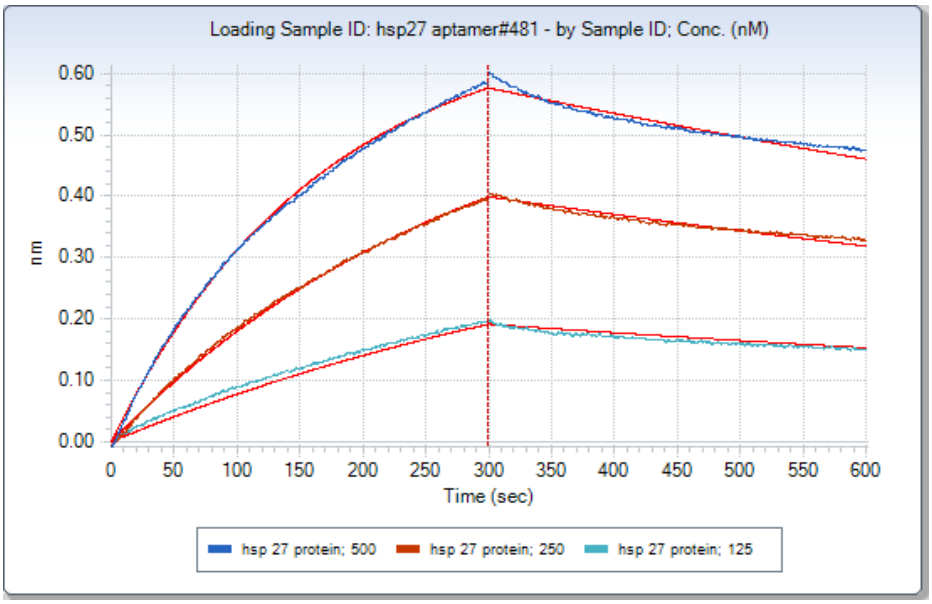

Figure 2. Association and dissociation graph of 1:1 fitting model of hsp27 aptamer #481 (biotinylated) to hsp27 protein concentration 500, 250 and 125 nM.

Table 1. K_d, R^2 and Chi^2 values by Global fitting for Referenced data. K_d = 70.7 nM

Immobilized Aptamer	Analyte	Conc. (nM)	Response	K_d (M)	Full X^2	Full R^2
hsp27 aptamer#481	hsp 27 protein	500	0.5779	7.07E-08	0.158513	0.997968
hsp27 aptamer#481	hsp 27 protein	250	0.3887	7.07E-08	0.158513	0.997968
hsp27 aptamer#481	hsp 27 protein	125	0.1927	7.07E-08	0.158513	0.997968