



APTAMER INFORMATION

Human Serum Albumin (HSA) aptamer_23G03 #372

1a. Description:

- *Identifiers:* 23 G03 (Oligo #372)
- *Number of DNA nucleotides:* 39 bases (without 3'-6T), 45 bases (with 3'-6T)
- *Molecular weight (includes 3'-biotin and 6T):* 14,237.4 g/mol
- *Target for selection:* **HSA protein, Sigma (Cat# A3782)**

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

- *Immobilized Ligand:* HSA aptamer_23G03 #372 with 3'-6T and biotin
- *Analyte:* HSA 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).

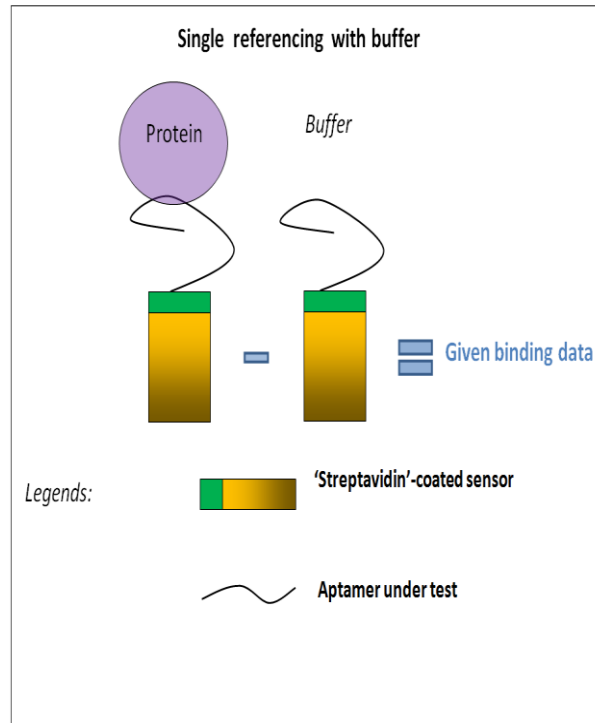


Figure 1. Diagram showing aptamer: protein binding validation scheme.



1d. Single reference data:

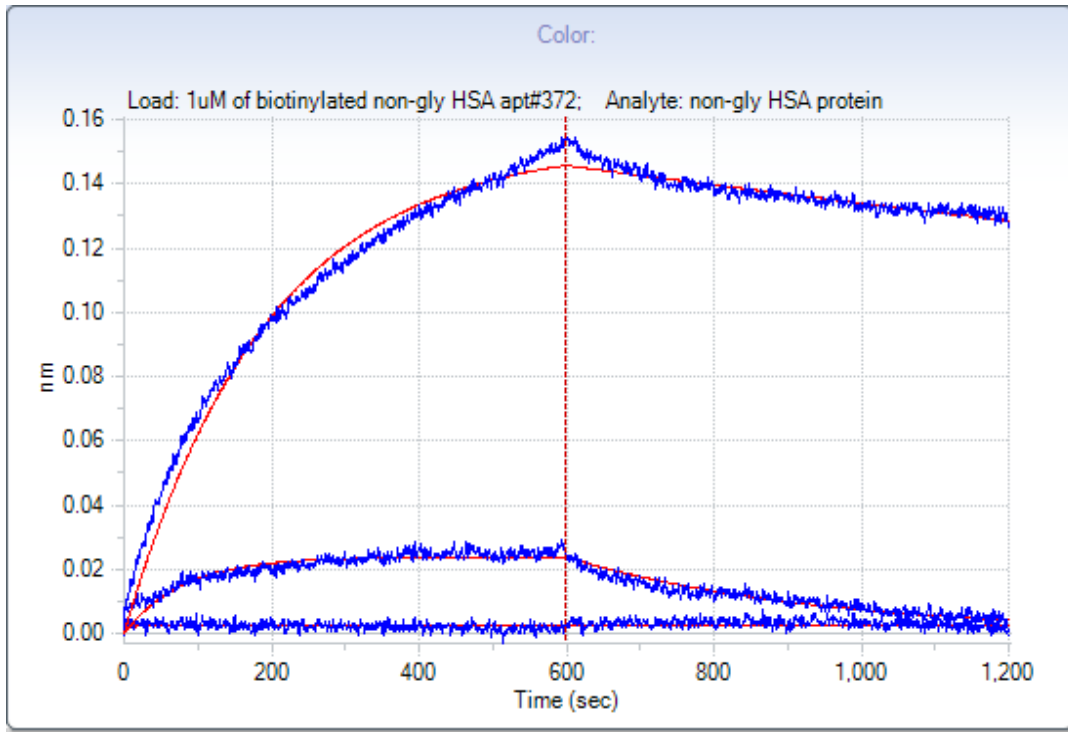


Figure 2. Association and dissociation graph of 1:1 fitting model of HSA aptamer (biotinylated) oligo #372 to HSA protein concentrations 500, 125 and 31.25 nM, by single reference method.

Table 1. K_d , R^2 and χ^2 values by Local fitting for single reference method. $K_d = 29.1$ nM

Immobilized Aptamer	Analyte	Conc. (nM)	Response	K_d (M)	Full R^2	Full χ^2
HSA apt#372 biotin	HSA protein	500	0.1512	2.09E-08	0.985181	0.016463
HSA apt#372 biotin	HSA protein	125	0.0268	3.72E-08	0.933033	0.004003



