

## APTAMER INFORMATION

### IgM mu chain 19-C03 aptamer #262

#### 1a. Description:

- Identifiers: Oligo #262
- Number of DNA nucleotides: 39 bases (without 3'-9AT), 57 bases (with 3'-9AT)
- Molecular weight (includes 3'-9AT and biotin): 17,862.8 g/mol
- Target for selection: **IgM mu chain protein, Athens Research (Cat# 16-16-090713-MU)**

Aptamer was selected from a randomized 40-mer library against IgM mu chain 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.

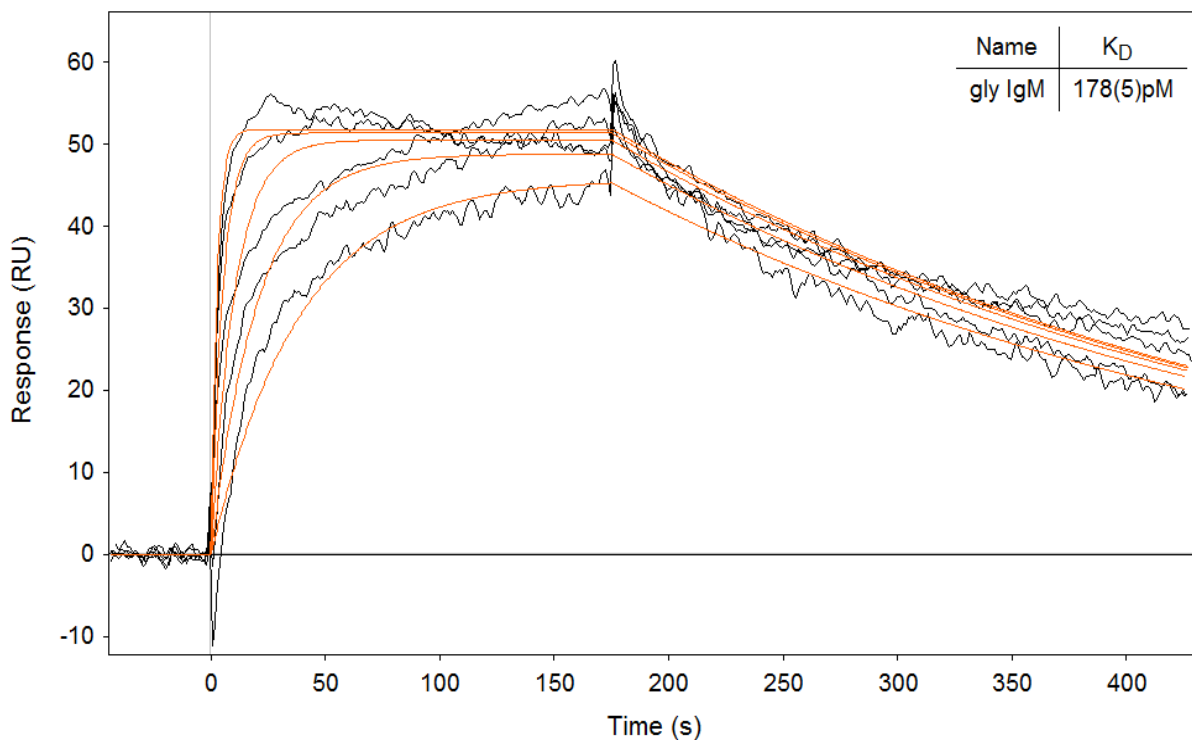
#### 1b. Validation data with IgM mu chain protein by Surface Plasmon resonance (SPR):

- Immobilized Ligand: IgM mu chain aptamer #262 with 3'-9AT and biotin
- Analyte: IgM mu chain protein
- By Kinetic Analysis (Qdat), avg  $K_d = 178 \pm 5$  pM

(non-linear regression, pseudo-first order 1:1 interaction, Levenberg-Marquardt algorithm):



Overlaid fit:



**Figure 1.** Overlaid fit of association and dissociation results of IgM mu chain aptamer binding with IgM protein concentrations 41, 20.5, 10.3, 5.15, 1.25 nM

	$k_a$ ( $M^{-1}s^{-1}$ )	$k_d$ ( $s^{-1}$ )	Rmax (RU)	K <sub>D</sub>
IgM mu	$1.82 \pm 0.02e7$	$3.2 \pm 0.1e-3$	$52.3 \pm 0.1$	$178 \pm 5$ pM

**Table 1.** Kinetics table showing rate and affinity constants obtained for IgM aptamer binding to IgM mu protein using the SensiQ system.

