



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:

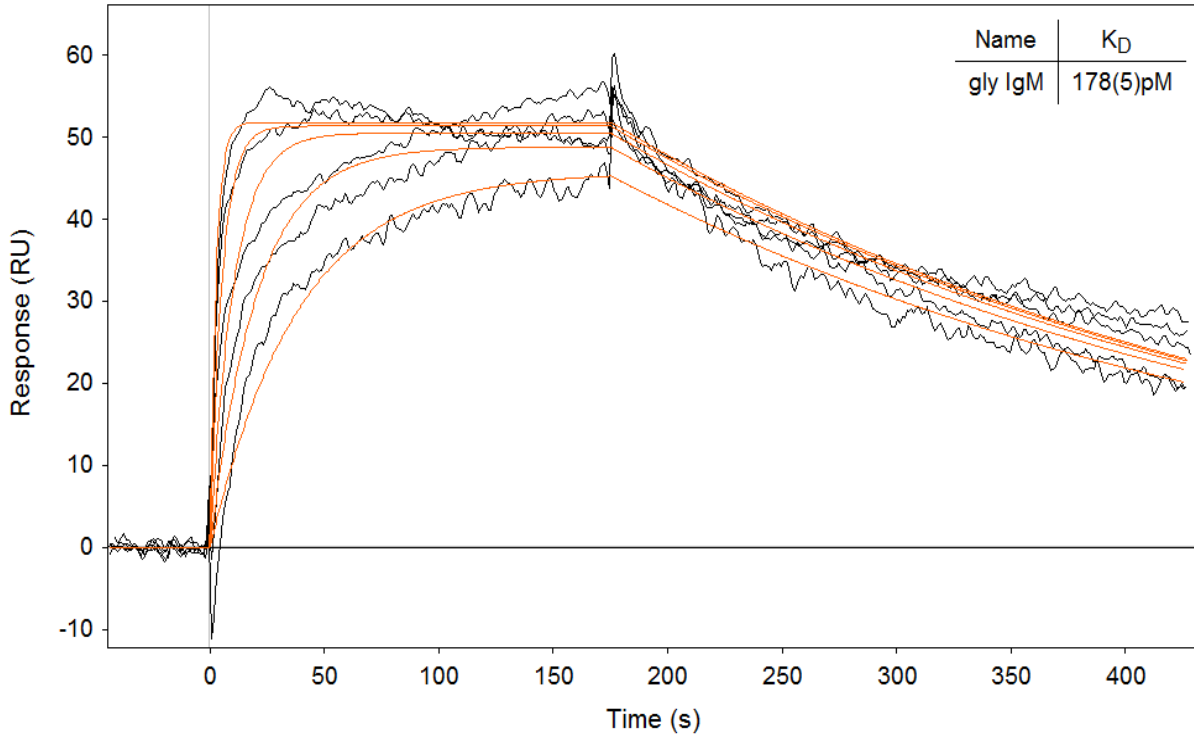


Figure 1. Overlaid fit of association and dissociation results of IgM mu chain aptamer binding with IgM protein concentrations 41, 20.5, 10.3, 5.15, 1.25 nM

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

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

