

Gator® Flex SA Kit - A Reactivable Streptavidin Probe Kit

INTRODUCTION

Many of the label-free probes have been successfully regenerated to reduce the cost of drug discovery and development. However, extensive application of streptavidin probes is still hindered by the irreversible immobilization of the ligand molecule, and the ability to reuse the probe for different applications is desirable for cost effective research.

GATOR® FLEX SA KIT

The Gator® Flex SA Kit is the first in the market to provide reactivable streptavidin probes with a set of reagents. One probe can easily be reused for different applications, which makes it beneficial for academics and for utility in fully automated screening of different biomolecular interactions.

PERFORMANCE SUMMARY

- Removes both capture reagent and biotinylated protein, and immobilizes new capture reagent in under 5 minutes
- Uses the same or different biotinylated protein
- Can be re-used at least 10 times without the loss of performance
- Automated reactivation of the probe
- Reagents can be stored at 4°C for up to 5 months

RESULTS

LOADING HEIGHT REPRODUCIBILITY

Three Flex SA probes were reactivated over 10 times using biotinylated TNF- α at 1 $\mu\text{g}/\text{mL}$. A loading height of CV <10% suggests excellent reproducibility.

	Probe 1 (n=10)	Probe 2 (n=10)	Probe 3 (n=10)
Loading Height Avg. (nm)	0.66	0.67	0.62
Loading Height SD (nm)	0.03	0.03	0.03
Loading Height % CV	4.54	4.09	5.4

Table 1: Loading height precision using 3 independent Flex SA probes.

REPRODUCIBILITY OF K_D OVER 10 REACTIVATIONS USING THE SAME BIOTINYLATED LIGAND

Flex SA Capture reagent was loaded onto the Flex SA probe, followed by biotinylated TNF- α . K_D values for TNF- α binding with anti-TNF- α IgG at 10, 30, 100 and 300 nM concentrations were obtained. Global fit analysis using the GatorOne software resulted in $K_D = 7.63\text{E}-10$ M for over 10 reactivations.

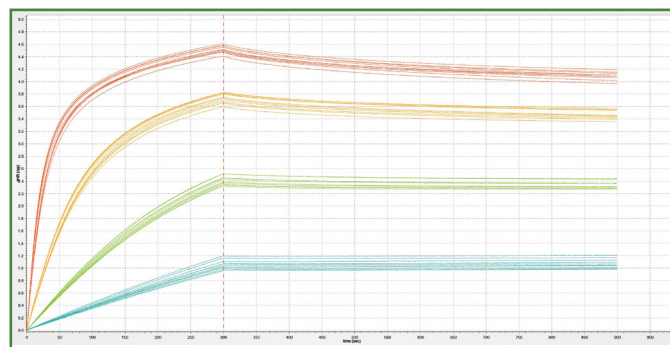


Figure 1: Kinetics characterization of biotinylated TNF- α and anti-TNF- α for over 10 reactivations.

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K_D MEASUREMENTS FOR DIFFERENT PROTEINS OVER 10 REACTIVATIONS

The same probe was tested with 2 different proteins for over 10 reactivations.

Biotinylated PDL1 - Anti-PDL1		Biotinylated CRP - Anti-CRP	
Reactivation 1	2.00E-10	Reactivation 2	4.77E-10
Reactivation 3	1.08E-10	Reactivation 4	4.28E-10
Reactivation 5	1.17E-10	Reactivation 6	3.88E-10
Reactivation 7	1.06E-10	Reactivation 8	3.49E-10
Reactivation 9	0.40E-10	Reactivation 10	3.22E-10
Average	1.14E-10	Average	3.93E-10

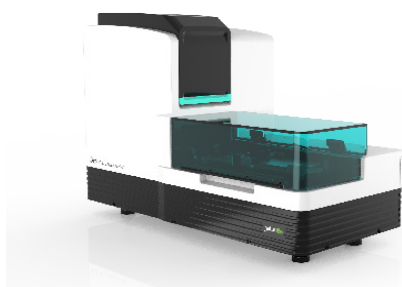
Table 2: K_D measurements using the same set of Flex SA probes with two different kinetics pairs. The two pairs were used alternately for over 10 reactivations.

GATOR BIO TOTAL SOLUTION

Gator® Flex SA Kit



Gator® Prime



Gator® GatorOne Software



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