

Sensorgrams obtained for each replicate of peptide  $3 / Phd_{STm}^{52-73}$  D53A (analyte) binding to Doc<sub>STm</sub> (ligand). Six concentrations of the analyte were flown over the surface in a single cycle, ranging from 50 nM to 0.206 nM (3-fold dilutions). The association times were 80s for replicates 1 and 2 and 200 s for replicate 3. In all replicates the dissociation time was 1200 s.

Summary of the fitted	parameters obtained	l from each SPR	measurement of peptide	3.

Replicate	kon (M <sup>-1</sup> s <sup>-1</sup> )	koff (s <sup>-1</sup> )	K <sub>D</sub> (pM)	RMAX (RU)	tc (RU M <sup>-1</sup> s <sup>-1</sup> )	Chi <sup>2</sup> (RU <sup>2</sup> )	U-value
1	$5.480 \pm 0.010 \times 10^{6}$	$6.650 \pm 0.052 \times 10^{\text{-5}}$	12.1	$31.2\pm0.01$	$4.970 \pm 3.920 \times 10^{12}$	0.434	5
2	$4.980 \pm 0.009 \times 10^{6}$	$8.250 \pm 0.052 \times 10^{\text{-5}}$	16.6	$30.8\pm0.01$	$1.280 \pm 3.230 \times 10^{14}$	0.449	5
3	$4.760 \pm 0.008 \times 10^{6}$	$4.720 \pm 0.049 \times 10^{\text{-5}}$	9.92	$30.2\pm0.01$	$3.270 \pm 9.670 \times 10^{13}$	0.358	7