Supplementary Data

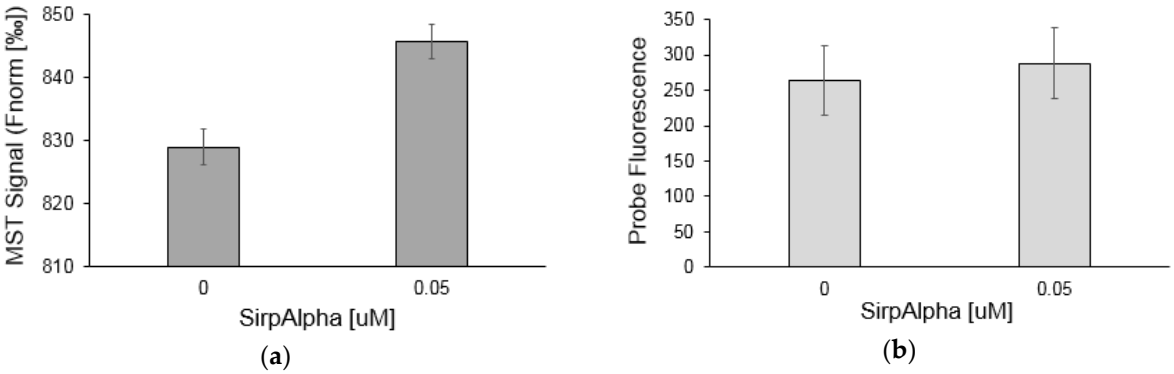

Figure S1. CD47 mimetic peptide fluorescent response to SIRPalpha. The CD47 mimetic probe IR-783 EVTELTREGE when exposed to human SIRPalpha: (**a**) Was found to exhibit a change in the thermophoretic signal which confirms binding, while (**b**) fluorescence in the unbound and bound state of the probe showed no significant change in intensity revealing that not all IR-783 peptide conjugates will produce "turn-on" fluorescence sensing.

Figure S2. LCMS-8040 spectra of the lyophilized IR783-VSHPQAPF product revealed an M+H of 1596 m/z representing the expected mass of a single covalently linked IR-783 sodium adduct (molecular weight = 749.5) to a single VSHPQAPF peptide (molecular weight = 881) with removal of chlorine (molecular weight = 35.5) as was to be predicted for amine-substitution of the IR-783 by the free amino terminus of the VSHPQAPF.

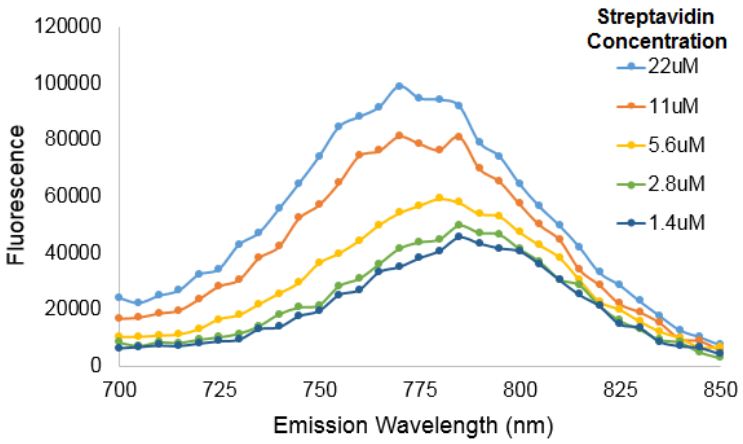

Figure S3. Fluorescence emission spectra for IR783-VSHPQAPF as a function of increasing concentrations of streptavidin (618 nm excitation wavelength). The fluorescence intensity increases linearly with streptavidin concentration and a blue shift in the emission maximum to lower wavelengths can similarly be observed.

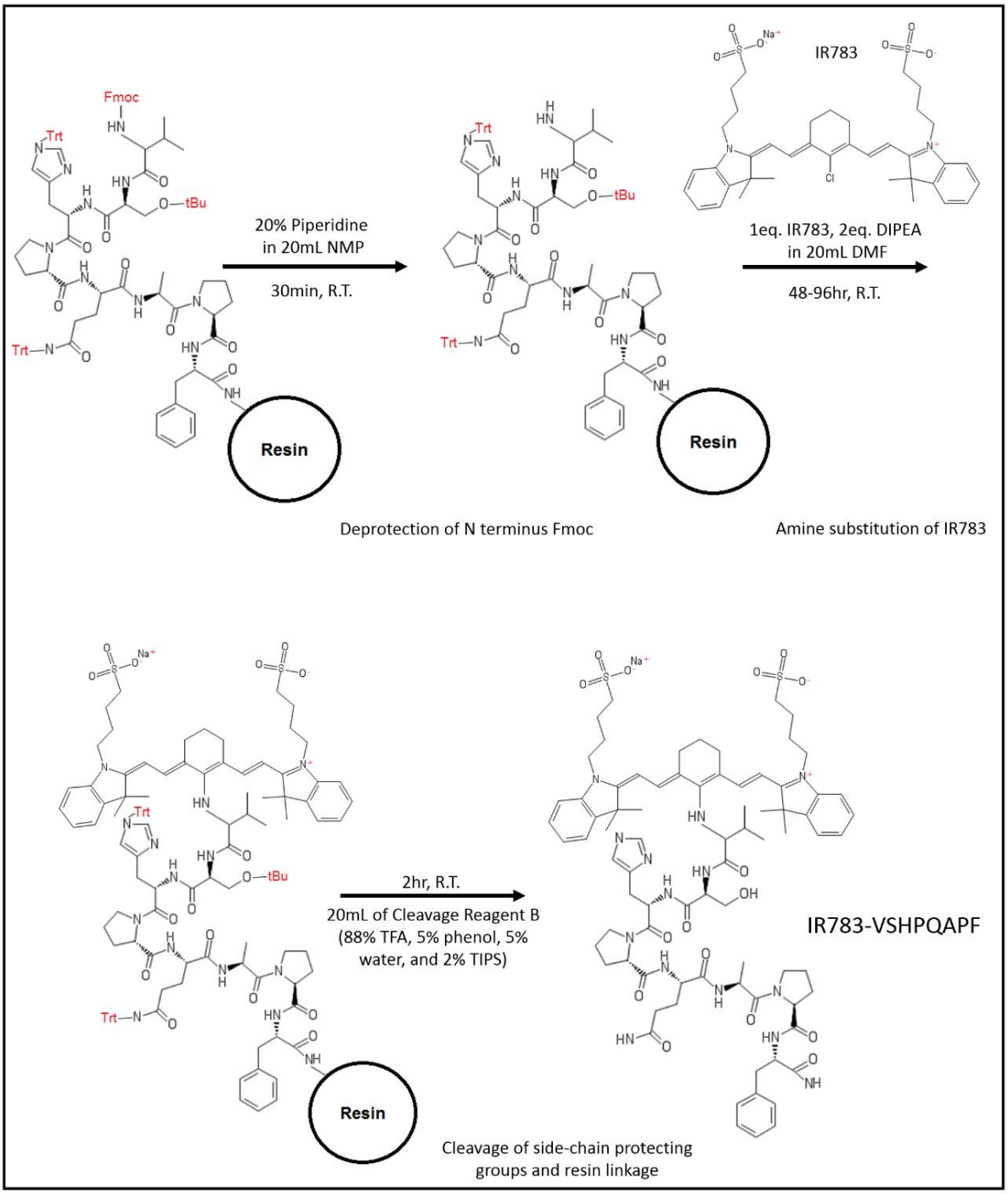

Figure S4. Scheme for the solid phase coupling strategy of IR-783 onto resin-bound peptide.

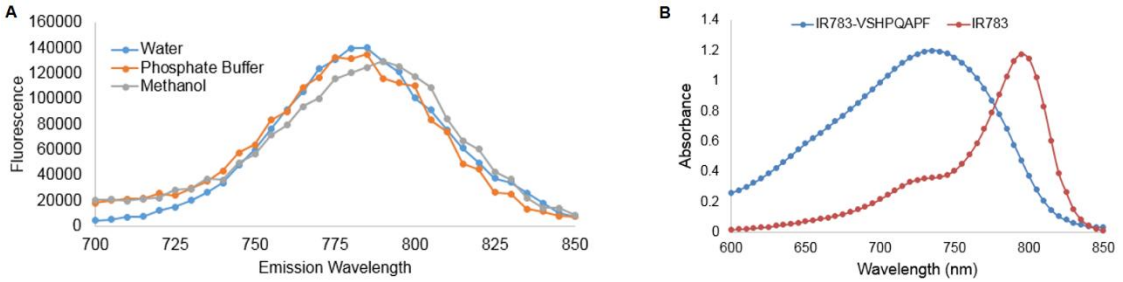

Figure S5. (**A**) Fluorescence emission spectra (618 nm excitation wavelength) for IR783-VSHPQAPF in different solvents (water, phosphate buffer, and methanol) showing a small red shift (~5 nm) for the peptide probe emission when using methanol as compared to PBS or water. (**B**) Absorption spectra of IR783 before (red spectrum) and after covalent coupling to the VSHPQAPF peptide (blue spectrum) showing a significant blue shift of the absorption maximum to lower wavelengths along with a broadening in the absorption spectra after coupling.

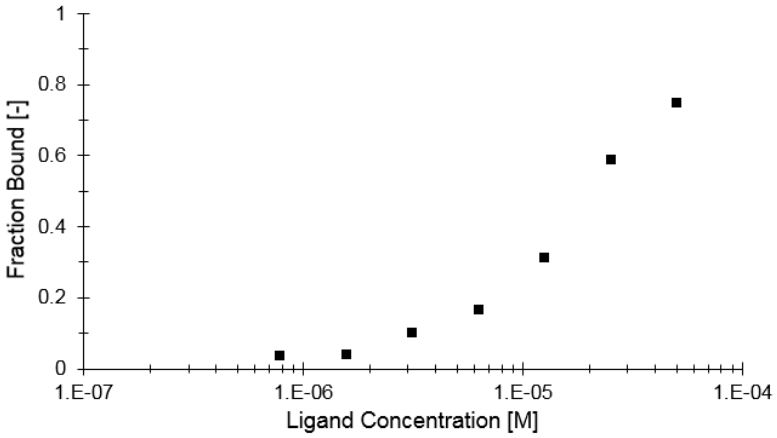

Figure S6. MST data collected for the IR783-VSHPQAPF peptide upon binding to increasing concentrations of streptavidin was fist to a Hill model for determining the affinity showing an EC50 of 20 ± 5 uM which is in good agreement with the literature values for the VSHPQAPF peptide binding to streptavidin that been previously reported from 4.1 uM to 79.5 uM [35].