Supporting information

Interfacial structure of immobilized antibodies and perdeuterated HSA in model pregnancy tests measured with neutron reflectivity

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The immunoassay described in the main text was repeated but with the d-HSA blocker replaced with h-HSA. The fitted parameters are shown in table S1.

Table S1.Fitted parameters for an antibody/h-HSA/hCG immunoassay using the best fitting models and the optical matrix method. A D_2O buffer was used throughout.

	Layer No.	Thickness (nm)	SLD ($x\ 10^{-6}\ A^{-2}$)	Volume fraction	Surface coverage (mg/m^2)
Antibody	1	3.5	5.26	0.361	1.91
	2	2.5	6.06	0.096	0.36
h-HSA	1	3.2	4.90	0.119	0.53
	2	2.9	6.00	0.020	0.08
hCG	1	3.2	4.70	0.068	0.17
	2	2.9	6.00	0	0

Tables S2 and S3 show the fitted parameters for the low and high antibody surface coverages shown in Figure 7 in the main text. Both experiments were performed in D_2O.

Table S2. Fitted parameters for a low surface coverage antibody film with subsequent d-HSA co-adsorption and hCG binding.

	Layer No.	Thickness (nm)	SLD ($x\ 10^{-6}\ A^{-2}$)	Volume fraction	Surface coverage (mg/m^2)
Antibody	1	3.5	6.15	0.066	0.35
d-HSA	1	4.5	6.34	0.181	1.13
hCG	1	4.4	6.19	0.051	0.18

Table S3. Fitted parameters for a high surface coverage antibody film with subsequent d-HSA co-adsorption and hCG binding.

	Layer No.	Thickness (nm)	SLD ($x\ 10^{-6}\ A^{-2}$)	Volume fraction	Surface coverage (mg/m^2)
Antibody	1	3.4	5.28	0.354	1.82
	2	2.8	5.96	0.136	0.57
d-HSA	1	2.2	5.72	0.286	0.88
	2	2.8	5.94	0	0
hCG	1	3.1	5.50	0.075	0.19
	2	2.9	5.94	0	0