

S3 Table. Binding kinetics data of 80 antibodies measured by surface plasmon resonance

| Antibody | KD (M) | ka (1/Ms) | kd (1/s) | Chi2 |
|-----------------|---------------|------------------|-----------------|-------------|
| S1 3.EO5 | 1.44E-10 | 6.28E+06 | 9.01E-04 | 3.21 |
| S1 3.FO6 | 2.11E-10 | 3.81E+06 | 8.02E-04 | 3.8 |
| S1 3.2AO4 | 9.18E-11 | 1.91E+05 | 1.75E-05 | 2.99 |
| S1 3.2AO6 | 1.67E-08 | 6.86E+04 | 1.15E-03 | 2.91 |
| S2 2.BO4 | 2.48E-10 | 4.58E+05 | 1.14E-04 | 3.83 |
| S2 2.EO3 | 5.20E-10 | 8.01E+04 | 4.16E-05 | 3.42 |
| S2 2.FO4 | 1.08E-10 | 1.29E+05 | 1.39E-05 | 2.87 |
| S2 3.AO5 | 3.22E-11 | 1.60E+06 | 5.16E-05 | 3.03 |
| S2 3.FO2 | 4.84E-11 | 3.53E+06 | 1.71E-04 | 2.92 |
| S2 3.GO2 | 1.95E-10 | 1.09E+06 | 2.11E-04 | 3.11 |
| S2 3.8CO3 | 2.87E-11 | 8.08E+05 | 2.32E-05 | 3.2 |
| S2 3.8FO5 | 5.01E-11 | 1.71E+06 | 8.59E-05 | 3.09 |
| S2 3.8GO6 | 6.43E-11 | 3.51E+06 | 2.26E-04 | 3.09 |
| S2 3.9CO5 | 8.78E-11 | 4.75E+05 | 4.18E-05 | 3.2 |
| S2 3.9GO6 | 4.84E-11 | 2.06E+06 | 9.98E-05 | 3.05 |
| S3 2.AO4 | 4.03E-09 | 8.14E+04 | 3.28E-04 | 2.79 |
| S3 2.CO2 | 8.64E-10 | 8.33E+04 | 7.20E-05 | 3.24 |
| S3 2.FO4 | 3.54E-09 | 1.89E+04 | 6.70E-05 | 3.71 |
| S3 2.FO6 | 2.37E-10 | 2.01E+05 | 4.76E-05 | 3.07 |
| S3 2.GO2 | 2.71E-09 | 1.38E+05 | 3.75E-04 | 2.98 |
| S3 2.GO6 | 1.38E-09 | 1.19E+05 | 1.63E-04 | 2.98 |
| S3 3.BO6 | 1.58E-09 | 1.44E+05 | 2.28E-04 | 3.44 |
| S4 2.AO5 | 1.40E-10 | 2.66E+05 | 3.73E-05 | 2.69 |
| S4 2.BO3 | 9.60E-11 | 1.55E+04 | 1.49E-06 | 2.47 |
| S4 2.BO4 | 1.46E-10 | 4.11E+05 | 5.99E-05 | 3.56 |
| S4 2.CO1 | 9.67E-11 | 1.69E+05 | 1.63E-05 | 2.8 |
| S4 2.CO3 | 5.09E-09 | 1.62E+05 | 8.25E-04 | 3.91 |
| S4 2.CO4 | 1.03E-09 | 1.01E+05 | 1.04E-04 | 2.76 |
| S4 2.DO1 | 3.94E-10 | 2.12E+05 | 8.34E-05 | 2.65 |
| S4 2.EO2 | 4.91E-10 | 5.54E+05 | 2.72E-04 | 4.22 |
| S4 2.EO4 | 2.51E-09 | 6.51E+05 | 1.63E-03 | 2.98 |

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|-----------|----------|----------|----------|------|
| S4 2.EO5 | 4.44E-10 | 4.18E+05 | 1.86E-04 | 3.53 |
| S4 3.2DO2 | 8.03E-10 | 5.02E+05 | 4.03E-04 | 3.27 |
| S5 3.5CO1 | 1.08E-09 | 1.81E+05 | 1.94E-04 | 3.57 |
| S6 1.BO1 | 1.41E-10 | 2.85E+05 | 4.03E-05 | 2.99 |
| S6 2.AO1 | 2.58E-08 | 5.29E+04 | 1.37E-03 | 2.71 |
| S6 2.DO5 | 5.95E-10 | 1.25E+05 | 7.42E-05 | 2.96 |
| S6 2.EO4 | 1.34E-08 | 1.93E+05 | 2.58E-03 | 2.76 |
| S6 2.GO4 | 6.48E-09 | 8.42E+04 | 5.46E-04 | 3.19 |
| S6 3.3AO6 | 1.06E-11 | 2.67E+06 | 2.84E-05 | 3.89 |
| S6 3.3CO3 | 1.72E-10 | 1.06E+06 | 1.83E-04 | 3.4 |
| S6 3.3EO2 | 1.94E-10 | 1.13E+06 | 2.20E-04 | 3.21 |
| S6 3.3EO6 | 5.03E-10 | 2.85E+05 | 1.43E-04 | 2.92 |
| S6 3.3FO1 | 2.72E-10 | 6.63E+05 | 1.80E-04 | 3.4 |
| S6 3.3GO4 | 1.25E-11 | 2.23E+06 | 2.78E-05 | 3.21 |
| S7 2.BO3 | 2.13E-10 | 8.58E+04 | 1.83E-05 | 2.85 |
| S7 2.DO2 | 2.60E-09 | 1.25E+04 | 3.26E-05 | 3.05 |
| S8 2.2EO3 | 1.66E-09 | 3.23E+04 | 5.37E-05 | 2.84 |
| S8 3.EO4 | 2.17E-09 | 2.93E+05 | 6.35E-04 | 2.88 |
| S8 3.2CO1 | 3.70E-10 | 2.65E+05 | 9.81E-05 | 2.81 |
| S9 3.2BO3 | 4.68E-10 | 7.19E+05 | 3.37E-04 | 4.73 |
| S9 3.3CO1 | 3.63E-10 | 7.65E+04 | 2.78E-05 | 2.69 |
| S9 3.3DO6 | 2.99E-09 | 3.12E+05 | 9.33E-04 | 3.01 |
| C1 1.CO2 | 1.16E-09 | 5.59E+05 | 6.48E-04 | 2.98 |
| C1 1.DO5 | 1.51E-09 | 2.69E+05 | 4.07E-04 | 3.58 |
| C1 1.2AO2 | 1.14E-09 | 3.16E+05 | 3.60E-04 | 3.58 |
| C1 2.DO5 | 4.34E-10 | 2.09E+05 | 9.08E-05 | 3.49 |
| C1 2.EO5 | 1.24E-09 | 5.57E+05 | 6.91E-04 | 3.96 |
| C1 2.GO4 | 1.41E-10 | 1.05E+05 | 1.48E-05 | 2.79 |
| C1 2.2CO4 | 1.37E-10 | 2.19E+05 | 3.01E-05 | 3.41 |
| C1 2.2FO4 | 1.84E-10 | 7.46E+05 | 1.38E-04 | 3.23 |
| C1 2.2GO1 | 2.54E-10 | 1.45E+05 | 3.68E-05 | 2.82 |
| C1 3.7BO1 | 1.50E-10 | 2.40E+05 | 3.59E-05 | 3.34 |
| C1 3.7DO2 | 3.32E-10 | 2.32E+05 | 7.70E-05 | 3.42 |
| C1 3.7DO4 | 2.10E-10 | 1.92E+05 | 4.03E-05 | 3.82 |
| C1 3.7FO2 | 2.52E-10 | 7.02E+04 | 1.77E-05 | 3.39 |
| C1 3.7GO2 | 7.66E-10 | 1.45E+05 | 1.11E-04 | 3.38 |

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|-----------|----------|----------|----------|------|
| C2 3.AO3 | 1.49E-11 | 9.01E+05 | 1.34E-05 | 3.25 |
| C2 3.FO4 | 3.30E-10 | 1.77E+05 | 5.86E-05 | 3.7 |
| C2 3.GO3 | 1.90E-10 | 9.26E+04 | 1.76E-05 | 3.37 |
| C2 3.GO5 | 1.35E-09 | 3.20E+05 | 4.32E-04 | 3.77 |
| C3 2.3FO2 | 1.75E-09 | 7.11E+05 | 1.24E-03 | 3.74 |
| C3 3.4CO2 | 1.14E-09 | 1.53E+05 | 1.75E-04 | 2.86 |
| C4 2.2DO1 | 1.35E-09 | 4.38E+04 | 5.92E-05 | 3.19 |
| C6 2.CO1 | 5.92E-09 | 4.17E+04 | 2.47E-04 | 3.93 |
| C6 2.DO1 | 2.43E-09 | 3.29E+04 | 8.00E-05 | 2.64 |
| C6 2.2EO5 | 1.08E-10 | 2.37E+05 | 2.56E-05 | 3 |
| C7 3.AO5 | 9.84E-09 | 1.52E+04 | 1.50E-04 | 2.84 |
| C8 2.FO2 | 5.78E-10 | 6.07E+04 | 3.51E-05 | 3.63 |
| C8 3.2AO6 | 2.03E-11 | 1.44E+06 | 2.92E-05 | 4.13 |