

Supplementary Data for “Electrochemical DNA biosensor that detects early Celiac Disease autoantibodies”.

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Below is the data used to generate the figures in the article text.

**Table S1.** voltametric data for **Figure 2A**.

| Potential<br>(V) | DNA      | PNA      | AABs     |
|------------------|----------|----------|----------|
| -0.499868        | 1.52E-06 | 9.89E-07 | 1.3E-06  |
| -0.499351        | 1.94E-06 | 1.29E-06 | 1.57E-06 |
| -0.498963        | 1.93E-06 | 1.32E-06 | 1.55E-06 |
| -0.498187        | 1.84E-06 | 1.27E-06 | 1.58E-06 |
| -0.497864        | 1.83E-06 | 1.29E-06 | 1.54E-06 |
| -0.497476        | 1.78E-06 | 1.19E-06 | 1.43E-06 |
| -0.496894        | 1.7E-06  | 1.15E-06 | 1.4E-06  |
| -0.496247        | 1.69E-06 | 1.23E-06 | 1.57E-06 |
| -0.49573         | 1.72E-06 | 1.16E-06 | 1.49E-06 |
| -0.495471        | 1.71E-06 | 1.13E-06 | 1.5E-06  |
| -0.494824        | 1.67E-06 | 1.12E-06 | 1.4E-06  |
| -0.494437        | 1.65E-06 | 1.23E-06 | 1.35E-06 |
| -0.493919        | 1.6E-06  | 1.08E-06 | 1.34E-06 |
| -0.493272        | 1.61E-06 | 1.16E-06 | 1.38E-06 |
| -0.492884        | 1.6E-06  | 1.15E-06 | 1.34E-06 |
| -0.492367        | 1.61E-06 | 1.16E-06 | 1.34E-06 |
| -0.49185         | 1.55E-06 | 1.1E-06  | 1.35E-06 |
| -0.491268        | 1.56E-06 | 1.16E-06 | 1.34E-06 |
| -0.490815        | 1.54E-06 | 1.14E-06 | 1.41E-06 |
| -0.490363        | 1.55E-06 | 1.12E-06 | 1.36E-06 |
| -0.489781        | 1.52E-06 | 1.1E-06  | 1.31E-06 |
| -0.489263        | 1.47E-06 | 1.04E-06 | 1.29E-06 |
| -0.488746        | 1.48E-06 | 1.06E-06 | 1.26E-06 |
| -0.488293        | 1.54E-06 | 1.12E-06 | 1.23E-06 |
| -0.48797         | 1.49E-06 | 1.08E-06 | 1.28E-06 |
| -0.487453        | 1.4E-06  | 1.01E-06 | 1.3E-06  |
| -0.486871        | 1.45E-06 | 1.01E-06 | 1.18E-06 |
| -0.486418        | 1.44E-06 | 1.08E-06 | 1.23E-06 |
| -0.485965        | 1.43E-06 | 1.1E-06  | 1.23E-06 |
| -0.485383        | 1.39E-06 | 1.01E-06 | 1.25E-06 |
| -0.484995        | 1.43E-06 | 1.02E-06 | 1.25E-06 |
| -0.484413        | 1.38E-06 | 1.06E-06 | 1.27E-06 |
| -0.483767        | 1.42E-06 | 1.02E-06 | 1.27E-06 |

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|-----------|----------|----------|----------|
| -0.483508 | 1.42E-06 | 1.03E-06 | 1.25E-06 |
| -0.482797 | 1.33E-06 | 1.04E-06 | 1.21E-06 |
| -0.482279 | 1.38E-06 | 1.02E-06 | 1.17E-06 |
| -0.481827 | 1.42E-06 | 1.04E-06 | 1.17E-06 |
| -0.481439 | 1.36E-06 | 9.58E-07 | 1.24E-06 |
| -0.480857 | 1.37E-06 | 1.01E-06 | 1.23E-06 |
| -0.480469 | 1.36E-06 | 1.05E-06 | 1.21E-06 |
| -0.479887 | 1.33E-06 | 9.68E-07 | 1.2E-06  |
| -0.479305 | 1.33E-06 | 1.03E-06 | 1.15E-06 |
| -0.478852 | 1.32E-06 | 9.73E-07 | 1.19E-06 |
| -0.478464 | 1.31E-06 | 1.03E-06 | 1.16E-06 |
| -0.477882 | 1.32E-06 | 9.62E-07 | 1.08E-06 |
| -0.47743  | 1.35E-06 | 9.33E-07 | 1.14E-06 |
| -0.476977 | 1.31E-06 | 9.29E-07 | 1.15E-06 |
| -0.476136 | 1.31E-06 | 9.52E-07 | 1.1E-06  |
| -0.475813 | 1.28E-06 | 9.39E-07 | 1.17E-06 |
| -0.475425 | 1.26E-06 | 1.01E-06 | 1.17E-06 |
| -0.474908 | 1.32E-06 | 9.44E-07 | 1.1E-06  |
| -0.474261 | 1.28E-06 | 8.6E-07  | 1.09E-06 |
| -0.473679 | 1.23E-06 | 1.05E-06 | 1.17E-06 |
| -0.473291 | 1.27E-06 | 9.42E-07 | 1.17E-06 |
| -0.472709 | 1.31E-06 | 8.57E-07 | 1.1E-06  |
| -0.472386 | 1.25E-06 | 9.65E-07 | 1.06E-06 |
| -0.471739 | 1.28E-06 | 9.83E-07 | 1.2E-06  |
| -0.471222 | 1.31E-06 | 8.39E-07 | 1.15E-06 |
| -0.470898 | 1.19E-06 | 9.28E-07 | 1.03E-06 |
| -0.470381 | 1.21E-06 | 9.25E-07 | 1.09E-06 |
| -0.469928 | 1.23E-06 | 9.12E-07 | 1.03E-06 |
| -0.469346 | 1.21E-06 | 9.89E-07 | 1.05E-06 |
| -0.469023 | 1.19E-06 | 9.39E-07 | 1.02E-06 |
| -0.468441 | 1.21E-06 | 9.13E-07 | 1.07E-06 |
| -0.467924 | 1.16E-06 | 9.47E-07 | 1.1E-06  |
| -0.467471 | 1.17E-06 | 9.73E-07 | 1.06E-06 |
| -0.466824 | 1.13E-06 | 8.49E-07 | 1.02E-06 |
| -0.466242 | 1.12E-06 | 9.09E-07 | 1.08E-06 |
| -0.465855 | 1.17E-06 | 9.26E-07 | 1.06E-06 |
| -0.465467 | 1.24E-06 | 9.36E-07 | 1.05E-06 |
| -0.464949 | 1.16E-06 | 9.44E-07 | 1.03E-06 |
| -0.464302 | 1.2E-06  | 9.52E-07 | 1.08E-06 |
| -0.463915 | 1.19E-06 | 9.1E-07  | 1.02E-06 |
| -0.463333 | 1.16E-06 | 8.59E-07 | 1.01E-06 |
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| -0.462233 | 1.16E-06 | 8.91E-07 | 1.11E-06 |

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|-----------|----------|----------|----------|
| -0.461781 | 1.14E-06 | 8.39E-07 | 1E-06    |
| -0.461393 | 1.14E-06 | 8.89E-07 | 1.02E-06 |
| -0.460811 | 1.14E-06 | 8.71E-07 | 1.04E-06 |
| -0.460358 | 1.16E-06 | 9.09E-07 | 1.08E-06 |
| -0.45997  | 1.07E-06 | 8.43E-07 | 1.1E-06  |
| -0.459323 | 1.07E-06 | 9.13E-07 | 1.02E-06 |
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| -0.458483 | 1.12E-06 | 8.68E-07 | 1.06E-06 |
| -0.457836 | 1.09E-06 | 8.7E-07  | 1.04E-06 |
| -0.457448 | 1.13E-06 | 8.02E-07 | 1.03E-06 |
| -0.456801 | 1.14E-06 | 8.41E-07 | 1.03E-06 |
| -0.456413 | 1.12E-06 | 7.59E-07 | 1.06E-06 |
| -0.455831 | 1.12E-06 | 8.81E-07 | 9.55E-07 |
| -0.455379 | 1.12E-06 | 9.07E-07 | 9.71E-07 |
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| -0.454409 | 1.11E-06 | 8.73E-07 | 9.05E-07 |
| -0.453762 | 1.06E-06 | 8.05E-07 | 1E-06    |
| -0.45318  | 1.1E-06  | 8.05E-07 | 1.04E-06 |
| -0.452857 | 1.13E-06 | 7.99E-07 | 9.67E-07 |
| -0.452275 | 1.1E-06  | 7.97E-07 | 9.57E-07 |
| -0.451693 | 1.12E-06 | 8.54E-07 | 1.05E-06 |
| -0.451176 | 1.13E-06 | 8.1E-07  | 1E-06    |
| -0.450852 | 1.09E-06 | 8.1E-07  | 9.62E-07 |
| -0.450335 | 1.07E-06 | 8.97E-07 | 9.92E-07 |
| -0.449753 | 1.06E-06 | 8.39E-07 | 9.92E-07 |
| -0.449494 | 1.04E-06 | 8.46E-07 | 9.36E-07 |
| -0.448783 | 1.06E-06 | 8.01E-07 | 1.02E-06 |
| -0.448266 | 9.94E-07 | 8.84E-07 | 1E-06    |
| -0.447813 | 1.07E-06 | 8.31E-07 | 1.04E-06 |
| -0.447425 | 1.05E-06 | 8.41E-07 | 1.01E-06 |
| -0.446778 | 1.1E-06  | 8.68E-07 | 9.73E-07 |
| -0.446455 | 1.06E-06 | 8.25E-07 | 1E-06    |
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| -0.445356 | 1.02E-06 | 8.1E-07  | 9.31E-07 |
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| -0.444127 | 1.07E-06 | 8.55E-07 | 9.81E-07 |
| -0.443739 | 1.05E-06 | 8.51E-07 | 9.6E-07  |
| -0.443351 | 1.06E-06 | 8.23E-07 | 9.31E-07 |
| -0.442963 | 1.01E-06 | 7.57E-07 | 9.94E-07 |
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| -0.441864 | 1.07E-06 | 8.1E-07  | 9.87E-07 |
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| -0.440764 | 1.04E-06 | 8.05E-07 | 1.03E-06 |

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|-----------|----------|----------|----------|
| -0.440247 | 1.03E-06 | 8.55E-07 | 9.68E-07 |
| -0.439859 | 1.09E-06 | 7.81E-07 | 9.81E-07 |
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| -0.438372 | 9.68E-07 | 8.63E-07 | 9.94E-07 |
| -0.43779  | 1.08E-06 | 8.02E-07 | 9.28E-07 |
| -0.437208 | 1.07E-06 | 8.39E-07 | 8.71E-07 |
| -0.436691 | 1.04E-06 | 8.52E-07 | 9.68E-07 |
| -0.436238 | 1.01E-06 | 8.62E-07 | 9.81E-07 |
| -0.435785 | 9.64E-07 | 7.88E-07 | 9.1E-07  |
| -0.435333 | 1.03E-06 | 8.81E-07 | 9.91E-07 |
| -0.434945 | 1.06E-06 | 8.25E-07 | 9.65E-07 |
| -0.434363 | 1.02E-06 | 8.54E-07 | 9.55E-07 |
| -0.43391  | 1.03E-06 | 8.05E-07 | 9.89E-07 |
| -0.433393 | 1.02E-06 | 7.65E-07 | 9.92E-07 |
| -0.432681 | 1.03E-06 | 7.99E-07 | 9.25E-07 |
| -0.432293 | 1.01E-06 | 9.23E-07 | 9.05E-07 |
| -0.431841 | 9.7E-07  | 8.8E-07  | 8.78E-07 |
| -0.431323 | 1.03E-06 | 9.18E-07 | 9.83E-07 |
| -0.431    | 1.02E-06 | 8.52E-07 | 9.78E-07 |
| -0.430483 | 9.41E-07 | 8.04E-07 | 9.62E-07 |
| -0.429771 | 9.77E-07 | 8.91E-07 | 9.92E-07 |
| -0.429383 | 1.02E-06 | 8.38E-07 | 9.55E-07 |
| -0.428737 | 9.91E-07 | 8.78E-07 | 9.23E-07 |
| -0.428284 | 1.03E-06 | 8.49E-07 | 9.09E-07 |
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| -0.427314 | 1.02E-06 | 8.51E-07 | 9.17E-07 |
| -0.426861 | 9.72E-07 | 8.42E-07 | 9.75E-07 |
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| -0.423887 | 9.67E-07 | 8.92E-07 | 9.78E-07 |
| -0.423499 | 1.02E-06 | 8.15E-07 | 9.41E-07 |
| -0.422917 | 1.05E-06 | 9.05E-07 | 9.39E-07 |
| -0.422335 | 1.02E-06 | 8.31E-07 | 9.73E-07 |
| -0.421947 | 9.73E-07 | 8.39E-07 | 8.88E-07 |
| -0.421365 | 1.06E-06 | 8.41E-07 | 9.5E-07  |
| -0.420718 | 9.9E-07  | 8.81E-07 | 9.47E-07 |
| -0.420524 | 1.09E-06 | 9.07E-07 | 9.79E-07 |
| -0.419942 | 1.01E-06 | 9.58E-07 | 9.76E-07 |
| -0.41949  | 1.08E-06 | 9.04E-07 | 9.73E-07 |

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|-----------|----------|----------|----------|
| -0.418843 | 1.01E-06 | 8.91E-07 | 9.36E-07 |
| -0.418455 | 1.02E-06 | 9.36E-07 | 9.62E-07 |
| -0.417873 | 9.86E-07 | 8.97E-07 | 9.68E-07 |
| -0.417291 | 1.01E-06 | 9.67E-07 | 9.55E-07 |
| -0.416903 | 1.04E-06 | 1E-06    | 9.52E-07 |
| -0.416515 | 1.06E-06 | 9.18E-07 | 1.01E-06 |
| -0.415868 | 1.06E-06 | 9.04E-07 | 9.52E-07 |
| -0.41561  | 9.95E-07 | 9.52E-07 | 9.73E-07 |
| -0.415028 | 1.05E-06 | 9.31E-07 | 1.06E-06 |
| -0.414316 | 1.04E-06 | 9.1E-07  | 9.47E-07 |
| -0.413929 | 9.77E-07 | 9.78E-07 | 9.78E-07 |
| -0.413411 | 1E-06    | 8.83E-07 | 9.84E-07 |
| -0.412894 | 1.02E-06 | 9.26E-07 | 9.52E-07 |
| -0.412635 | 1.09E-06 | 9.04E-07 | 1.02E-06 |
| -0.41173  | 1.09E-06 | 9.34E-07 | 1E-06    |
| -0.411407 | 1.06E-06 | 9.29E-07 | 1.04E-06 |
| -0.410889 | 1.03E-06 | 9.87E-07 | 1.06E-06 |
| -0.410307 | 1.12E-06 | 1.06E-06 | 1.12E-06 |
| -0.409919 | 1.07E-06 | 9.87E-07 | 1.09E-06 |
| -0.409337 | 1.08E-06 | 9.97E-07 | 1.08E-06 |
| -0.408949 | 1.08E-06 | 9.62E-07 | 1.01E-06 |
| -0.408367 | 1.04E-06 | 1.04E-06 | 1.07E-06 |
| -0.407915 | 1.13E-06 | 9.99E-07 | 1.06E-06 |
| -0.407462 | 1.14E-06 | 1.07E-06 | 1.13E-06 |
| -0.40688  | 1.14E-06 | 9.89E-07 | 1.09E-06 |
| -0.406492 | 1.1E-06  | 1.06E-06 | 1.06E-06 |
| -0.405975 | 1.14E-06 | 1.08E-06 | 1.2E-06  |
| -0.405651 | 1.09E-06 | 1.11E-06 | 1.04E-06 |
| -0.405005 | 1.13E-06 | 1.08E-06 | 1.06E-06 |
| -0.404423 | 1.1E-06  | 1.06E-06 | 1.1E-06  |
| -0.40397  | 1.1E-06  | 1.07E-06 | 1.02E-06 |
| -0.403517 | 1.14E-06 | 1.14E-06 | 1.17E-06 |
| -0.402935 | 1.16E-06 | 1.08E-06 | 1.17E-06 |
| -0.402418 | 1.14E-06 | 1.16E-06 | 1.11E-06 |
| -0.402095 | 1.06E-06 | 1.11E-06 | 1.19E-06 |
| -0.401383 | 1.16E-06 | 1.13E-06 | 1.17E-06 |
| -0.400931 | 1.18E-06 | 1.16E-06 | 1.15E-06 |
| -0.400284 | 1.15E-06 | 1.17E-06 | 1.15E-06 |
| -0.400025 | 1.15E-06 | 1.17E-06 | 1.23E-06 |
| -0.399444 | 1.15E-06 | 1.15E-06 | 1.25E-06 |
| -0.398991 | 1.22E-06 | 1.19E-06 | 1.23E-06 |
| -0.398603 | 1.2E-06  | 1.21E-06 | 1.19E-06 |
| -0.397956 | 1.2E-06  | 1.26E-06 | 1.23E-06 |

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| -0.397051 | 1.22E-06 | 1.16E-06 | 1.21E-06 |
| -0.396922 | 1.21E-06 | 1.24E-06 | 1.38E-06 |
| -0.396534 | 1.24E-06 | 1.34E-06 | 1.23E-06 |
| -0.395822 | 1.26E-06 | 1.23E-06 | 1.34E-06 |
| -0.395434 | 1.26E-06 | 1.34E-06 | 1.27E-06 |
| -0.394723 | 1.22E-06 | 1.3E-06  | 1.31E-06 |
| -0.394206 | 1.3E-06  | 1.27E-06 | 1.49E-06 |
| -0.393882 | 1.29E-06 | 1.34E-06 | 1.3E-06  |
| -0.3933   | 1.33E-06 | 1.36E-06 | 1.3E-06  |
| -0.392912 | 1.3E-06  | 1.39E-06 | 1.46E-06 |
| -0.392395 | 1.27E-06 | 1.44E-06 | 1.36E-06 |
| -0.391813 | 1.29E-06 | 1.47E-06 | 1.48E-06 |
| -0.391425 | 1.38E-06 | 1.5E-06  | 1.45E-06 |
| -0.390843 | 1.46E-06 | 1.42E-06 | 1.43E-06 |
| -0.390326 | 1.44E-06 | 1.53E-06 | 1.57E-06 |
| -0.389873 | 1.4E-06  | 1.5E-06  | 1.47E-06 |
| -0.38955  | 1.35E-06 | 1.55E-06 | 1.6E-06  |
| -0.388903 | 1.42E-06 | 1.58E-06 | 1.47E-06 |
| -0.388256 | 1.5E-06  | 1.54E-06 | 1.49E-06 |
| -0.387739 | 1.52E-06 | 1.63E-06 | 1.67E-06 |
| -0.387481 | 1.48E-06 | 1.55E-06 | 1.51E-06 |
| -0.386963 | 1.54E-06 | 1.57E-06 | 1.62E-06 |
| -0.386511 | 1.54E-06 | 1.54E-06 | 1.54E-06 |
| -0.385799 | 1.56E-06 | 1.69E-06 | 1.54E-06 |
| -0.385476 | 1.55E-06 | 1.69E-06 | 1.72E-06 |
| -0.384829 | 1.52E-06 | 1.79E-06 | 1.54E-06 |
| -0.384312 | 1.65E-06 | 1.8E-06  | 1.79E-06 |
| -0.383795 | 1.63E-06 | 1.8E-06  | 1.61E-06 |
| -0.383342 | 1.67E-06 | 1.83E-06 | 1.58E-06 |
| -0.382695 | 1.65E-06 | 1.88E-06 | 1.95E-06 |
| -0.382372 | 1.69E-06 | 1.81E-06 | 1.66E-06 |
| -0.38179  | 1.68E-06 | 1.89E-06 | 1.88E-06 |
| -0.381467 | 1.72E-06 | 1.94E-06 | 1.8E-06  |
| -0.38082  | 1.77E-06 | 1.92E-06 | 1.77E-06 |
| -0.380432 | 1.79E-06 | 1.97E-06 | 1.9E-06  |
| -0.379785 | 1.76E-06 | 2.03E-06 | 1.84E-06 |
| -0.379268 | 1.81E-06 | 2E-06    | 2.01E-06 |
| -0.378945 | 1.85E-06 | 2.13E-06 | 1.88E-06 |
| -0.378298 | 1.83E-06 | 2.1E-06  | 1.88E-06 |
| -0.377781 | 1.97E-06 | 2.17E-06 | 2.14E-06 |
| -0.377199 | 1.88E-06 | 2.16E-06 | 1.94E-06 |
| -0.376746 | 1.87E-06 | 2.17E-06 | 2.16E-06 |
| -0.376229 | 1.98E-06 | 2.31E-06 | 1.9E-06  |

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|-----------|----------|----------|----------|
| -0.375841 | 1.99E-06 | 2.22E-06 | 2.06E-06 |
| -0.375259 | 2.06E-06 | 2.26E-06 | 2.2E-06  |
| -0.374741 | 2.03E-06 | 2.3E-06  | 2.07E-06 |
| -0.374353 | 2.06E-06 | 2.32E-06 | 2.3E-06  |
| -0.373901 | 2.13E-06 | 2.39E-06 | 2.08E-06 |
| -0.373384 | 2.15E-06 | 2.39E-06 | 2.14E-06 |
| -0.372931 | 2.16E-06 | 2.43E-06 | 2.28E-06 |
| -0.372284 | 2.21E-06 | 2.51E-06 | 2.25E-06 |
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| -0.36737  | 2.57E-06 | 2.83E-06 | 2.52E-06 |
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| -0.251296 | 2.04E-06 | 1.55E-06 | 1.59E-06 |
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| -0.243342 | 1.67E-06 | 1.16E-06 | 1.44E-06 |
| -0.242954 | 1.55E-06 | 1.21E-06 | 1.39E-06 |
| -0.242307 | 1.55E-06 | 1.25E-06 | 1.3E-06  |
| -0.241984 | 1.59E-06 | 1.19E-06 | 1.36E-06 |
| -0.241402 | 1.53E-06 | 1.17E-06 | 1.41E-06 |
| -0.24082  | 1.59E-06 | 1.15E-06 | 1.34E-06 |
| -0.240303 | 1.5E-06  | 1.19E-06 | 1.37E-06 |
| -0.239786 | 1.46E-06 | 1.12E-06 | 1.27E-06 |
| -0.239397 | 1.47E-06 | 1.14E-06 | 1.3E-06  |
| -0.23888  | 1.47E-06 | 1.1E-06  | 1.2E-06  |
| -0.238169 | 1.44E-06 | 1.04E-06 | 1.22E-06 |
| -0.23791  | 1.4E-06  | 1.08E-06 | 1.25E-06 |
| -0.237328 | 1.46E-06 | 1.12E-06 | 1.21E-06 |
| -0.237005 | 1.4E-06  | 1.07E-06 | 1.21E-06 |
| -0.236294 | 1.38E-06 | 1.07E-06 | 1.18E-06 |
| -0.235712 | 1.3E-06  | 1.11E-06 | 1.18E-06 |
| -0.235388 | 1.36E-06 | 1.03E-06 | 1.21E-06 |
| -0.234871 | 1.35E-06 | 1E-06    | 1.23E-06 |
| -0.234289 | 1.32E-06 | 1.03E-06 | 1.15E-06 |
| -0.233966 | 1.21E-06 | 1.01E-06 | 1.12E-06 |
| -0.233319 | 1.25E-06 | 9.78E-07 | 1.2E-06  |
| -0.232802 | 1.23E-06 | 1.02E-06 | 1.18E-06 |
| -0.232543 | 1.26E-06 | 1.05E-06 | 1.18E-06 |
| -0.231961 | 1.21E-06 | 9.79E-07 | 1.11E-06 |
| -0.231315 | 1.21E-06 | 1.01E-06 | 1.17E-06 |
| -0.230862 | 1.17E-06 | 9.99E-07 | 1.14E-06 |
| -0.23028  | 1.15E-06 | 9.46E-07 | 1.01E-06 |
| -0.229698 | 1.08E-06 | 1.02E-06 | 1.05E-06 |
| -0.229439 | 1.2E-06  | 8.78E-07 | 1.14E-06 |
| -0.228728 | 1.19E-06 | 9.1E-07  | 1.06E-06 |
| -0.228405 | 1.1E-06  | 8.89E-07 | 1.05E-06 |
| -0.227693 | 1.12E-06 | 9.78E-07 | 1.03E-06 |
| -0.227435 | 1.09E-06 | 1.01E-06 | 1.05E-06 |
| -0.226659 | 1.08E-06 | 9.18E-07 | 1.06E-06 |
| -0.2264   | 1.08E-06 | 8.97E-07 | 1.01E-06 |
| -0.225689 | 1.03E-06 | 9.17E-07 | 1.02E-06 |

|           |          |          |          |
|-----------|----------|----------|----------|
| -0.225301 | 1.06E-06 | 9.25E-07 | 9.71E-07 |
| -0.224719 | 1.08E-06 | 8.63E-07 | 1.04E-06 |
| -0.224331 | 1.01E-06 | 8.88E-07 | 1.03E-06 |
| -0.223878 | 1.06E-06 | 8.33E-07 | 9.62E-07 |
| -0.223231 | 1.02E-06 | 9.23E-07 | 9.23E-07 |
| -0.222714 | 9.41E-07 | 8.33E-07 | 9.47E-07 |
| -0.222455 | 9.88E-07 | 8.75E-07 | 9.5E-07  |
| -0.221744 | 9.29E-07 | 8.28E-07 | 9.31E-07 |
| -0.221356 | 9.02E-07 | 8.01E-07 | 9.58E-07 |
| -0.220839 | 9.45E-07 | 8.71E-07 | 9.99E-07 |
| -0.220257 | 9.16E-07 | 8.97E-07 | 9.13E-07 |
| -0.219998 | 9.56E-07 | 8.07E-07 | 1.05E-06 |
| -0.219351 | 8.4E-07  | 8.67E-07 | 9.02E-07 |
| -0.218834 | 9.27E-07 | 8.52E-07 | 8.71E-07 |
| -0.218188 | 9.06E-07 | 7.78E-07 | 9.71E-07 |
| -0.217864 | 8.98E-07 | 7.75E-07 | 9.02E-07 |
| -0.217347 | 9.25E-07 | 8.42E-07 | 9.25E-07 |
| -0.2167   | 8.83E-07 | 8.34E-07 | 8.86E-07 |
| -0.216506 | 8.69E-07 | 7.75E-07 | 9.02E-07 |
| -0.215795 | 9.29E-07 | 8.18E-07 | 9.44E-07 |
| -0.215407 | 8.52E-07 | 8.23E-07 | 8.8E-07  |
| -0.214825 | 9.19E-07 | 7.38E-07 | 9.63E-07 |
| -0.214243 | 8.44E-07 | 8.68E-07 | 9.39E-07 |
| -0.213919 | 9.05E-07 | 8.15E-07 | 8.76E-07 |
| -0.213338 | 7.23E-07 | 8.07E-07 | 8.71E-07 |
| -0.212885 | 7.68E-07 | 8.01E-07 | 9.73E-07 |
| -0.212368 | 8.42E-07 | 7.57E-07 | 9.26E-07 |
| -0.211915 | 8.35E-07 | 8.15E-07 | 8.51E-07 |
| -0.211204 | 7.65E-07 | 7.64E-07 | 8.42E-07 |
| -0.210945 | 7.58E-07 | 7.6E-07  | 8.63E-07 |
| -0.210298 | 8.29E-07 | 7.23E-07 | 7.91E-07 |
| -0.209781 | 7.4E-07  | 7.15E-07 | 8.42E-07 |
| -0.209458 | 8E-07    | 7.7E-07  | 9.07E-07 |
| -0.20894  | 7.38E-07 | 6.85E-07 | 8.59E-07 |
| -0.208358 | 7.58E-07 | 7.44E-07 | 8.81E-07 |
| -0.207776 | 7.87E-07 | 6.59E-07 | 8.15E-07 |
| -0.207324 | 7.87E-07 | 7.57E-07 | 8.55E-07 |
| -0.206871 | 7.73E-07 | 7.35E-07 | 8.18E-07 |
| -0.206483 | 7.69E-07 | 7.62E-07 | 8.31E-07 |
| -0.205966 | 7.32E-07 | 6.83E-07 | 7.36E-07 |
| -0.205449 | 7.59E-07 | 7.09E-07 | 8.76E-07 |
| -0.204931 | 7.38E-07 | 7.09E-07 | 8.07E-07 |
| -0.204479 | 7.59E-07 | 6.93E-07 | 8.12E-07 |

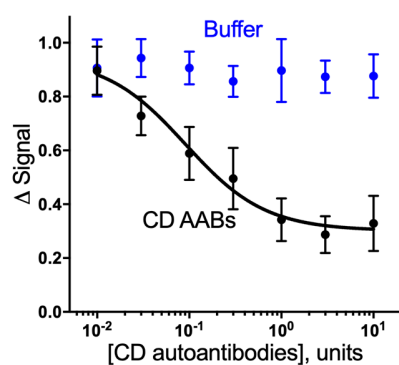
|           |          |          |          |
|-----------|----------|----------|----------|
| -0.204091 | 6.97E-07 | 5.94E-07 | 8.07E-07 |
| -0.203444 | 6.73E-07 | 6.89E-07 | 7.78E-07 |
| -0.202797 | 6.59E-07 | 6.25E-07 | 7.76E-07 |
| -0.202474 | 6.82E-07 | 6.77E-07 | 7.81E-07 |
| -0.201957 | 7.02E-07 | 6.93E-07 | 7.52E-07 |
| -0.20131  | 6.31E-07 | 6.44E-07 | 8.04E-07 |
| -0.200857 | 6.92E-07 | 6.98E-07 | 7.22E-07 |
| -0.200405 | 6.74E-07 | 6.69E-07 | 7.73E-07 |
| -0.200081 | 6.74E-07 | 6.41E-07 | 7.56E-07 |
| -0.19937  | 6.8E-07  | 6.77E-07 | 7.3E-07  |
| -0.199047 | 6.65E-07 | 6.2E-07  | 7.73E-07 |
| -0.198271 | 6.22E-07 | 5.61E-07 | 7.81E-07 |
| -0.197883 | 7.01E-07 | 6.15E-07 | 7.83E-07 |
| -0.197365 | 6.38E-07 | 5.73E-07 | 7.62E-07 |
| -0.196783 | 6.89E-07 | 6.4E-07  | 6.49E-07 |
| -0.196395 | 6.51E-07 | 7.6E-07  | 7.89E-07 |
| -0.195943 | 6.26E-07 | 6.36E-07 | 8.23E-07 |
| -0.195231 | 6.07E-07 | 6.49E-07 | 7.76E-07 |
| -0.194908 | 6.46E-07 | 6.65E-07 | 7.44E-07 |
| -0.194326 | 6.19E-07 | 6.23E-07 | 7.65E-07 |
| -0.193938 | 6.64E-07 | 6.59E-07 | 7.38E-07 |
| -0.193356 | 6.38E-07 | 5.83E-07 | 7.2E-07  |
| -0.192774 | 6.52E-07 | 5.56E-07 | 7.02E-07 |
| -0.192386 | 6.04E-07 | 6.46E-07 | 7.89E-07 |
| -0.191804 | 6.1E-07  | 6.11E-07 | 6.81E-07 |
| -0.191416 | 5.97E-07 | 5.69E-07 | 7.14E-07 |
| -0.190769 | 6.64E-07 | 6.19E-07 | 7.88E-07 |
| -0.190317 | 5.95E-07 | 6.85E-07 | 6.64E-07 |
| -0.189864 | 5.41E-07 | 6.28E-07 | 6.75E-07 |
| -0.189412 | 5.95E-07 | 5.83E-07 | 7.15E-07 |
| -0.188635 | 6.08E-07 | 6.3E-07  | 7.64E-07 |
| -0.188442 | 5.85E-07 | 6.6E-07  | 7.01E-07 |
| -0.187924 | 5.97E-07 | 5.69E-07 | 7.88E-07 |
| -0.187407 | 5.5E-07  | 6.07E-07 | 7.1E-07  |
| -0.186954 | 5.68E-07 | 7.07E-07 | 6.44E-07 |
| -0.186437 | 6.02E-07 | 5.41E-07 | 6.62E-07 |
| -0.185984 | 5.59E-07 | 7.02E-07 | 6.3E-07  |
| -0.185596 | 5.7E-07  | 6.01E-07 | 7.22E-07 |
| -0.185014 | 6.42E-07 | 5.51E-07 | 7.25E-07 |
| -0.184497 | 6.06E-07 | 5.8E-07  | 7.62E-07 |
| -0.183915 | 5.68E-07 | 5.69E-07 | 7.09E-07 |
| -0.183527 | 5.85E-07 | 5.48E-07 | 6.65E-07 |
| -0.182945 | 5.39E-07 | 5.01E-07 | 6.64E-07 |

|           |          |          |          |
|-----------|----------|----------|----------|
| -0.182428 | 5.9E-07  | 5.09E-07 | 6.49E-07 |
| -0.18191  | 5.63E-07 | 6.75E-07 | 7.51E-07 |
| -0.181458 | 5.49E-07 | 6.07E-07 | 6.91E-07 |
| -0.181005 | 5.1E-07  | 5.75E-07 | 6.6E-07  |
| -0.180553 | 5.15E-07 | 6.23E-07 | 6.62E-07 |
| -0.17997  | 5.1E-07  | 6.33E-07 | 6.23E-07 |
| -0.179388 | 5.59E-07 | 6.51E-07 | 6.49E-07 |
| -0.178936 | 5.5E-07  | 5.07E-07 | 6.33E-07 |
| -0.178483 | 6.01E-07 | 5.62E-07 | 6.91E-07 |
| -0.177901 | 5.39E-07 | 5.07E-07 | 5.77E-07 |
| -0.177578 | 5.27E-07 | 5.4E-07  | 5.65E-07 |
| -0.176867 | 5.88E-07 | 4.25E-07 | 6.72E-07 |
| -0.176414 | 5.5E-07  | 5.57E-07 | 6.6E-07  |
| -0.175896 | 5.14E-07 | 5.28E-07 | 5.59E-07 |
| -0.175379 | 4.65E-07 | 5.4E-07  | 6.02E-07 |
| -0.175121 | 5.64E-07 | 5.25E-07 | 7.18E-07 |
| -0.17428  | 5.5E-07  | 5.19E-07 | 6.81E-07 |
| -0.173892 | 5.17E-07 | 5.64E-07 | 5.54E-07 |
| -0.17331  | 5.27E-07 | 5.09E-07 | 6.22E-07 |
| -0.172857 | 5.09E-07 | 4.62E-07 | 6.43E-07 |
| -0.172405 | 5.13E-07 | 5.64E-07 | 5.88E-07 |
| -0.171952 | 5.37E-07 | 5.27E-07 | 5.54E-07 |
| -0.171499 | 5.82E-07 | 5.59E-07 | 5.46E-07 |
| -0.170982 | 5.49E-07 | 5.73E-07 | 6.31E-07 |
| -0.170335 | 6.26E-07 | 5.15E-07 | 6.25E-07 |
| -0.170012 | 5.14E-07 | 4.49E-07 | 6.06E-07 |
| -0.169365 | 5.52E-07 | 5.43E-07 | 6.83E-07 |
| -0.168913 | 4.59E-07 | 4.95E-07 | 6.25E-07 |
| -0.168525 | 4.86E-07 | 4.98E-07 | 5.99E-07 |
| -0.167878 | 5.34E-07 | 5.67E-07 | 5.56E-07 |
| -0.167361 | 5.03E-07 | 5.44E-07 | 6.12E-07 |
| -0.167038 | 6.02E-07 | 4.66E-07 | 6.04E-07 |
| -0.166456 | 5.1E-07  | 4.32E-07 | 6.19E-07 |
| -0.166003 | 5.43E-07 | 5.25E-07 | 5.75E-07 |
| -0.165485 | 4.76E-07 | 5.38E-07 | 5.94E-07 |
| -0.164839 | 5.44E-07 | 4.86E-07 | 4.64E-07 |
| -0.164515 | 4.94E-07 | 4.4E-07  | 5.91E-07 |
| -0.164063 | 4.79E-07 | 5.12E-07 | 5.96E-07 |
| -0.16361  | 4.67E-07 | 5.56E-07 | 5.99E-07 |
| -0.16277  | 4.99E-07 | 5.04E-07 | 5.36E-07 |
| -0.16264  | 4.48E-07 | 4.45E-07 | 5.28E-07 |
| -0.161994 | 5.31E-07 | 4.56E-07 | 6.23E-07 |
| -0.161347 | 5.15E-07 | 5.2E-07  | 5.72E-07 |

|           |          |          |          |
|-----------|----------|----------|----------|
| -0.16083  | 4.88E-07 | 5.27E-07 | 5.88E-07 |
| -0.160377 | 5.77E-07 | 4.83E-07 | 6.35E-07 |
| -0.160054 | 4.97E-07 | 4.43E-07 | 5.56E-07 |
| -0.159666 | 4.95E-07 | 4.57E-07 | 5.17E-07 |
| -0.159084 | 4.78E-07 | 4.4E-07  | 6.07E-07 |
| -0.158566 | 5.21E-07 | 4.32E-07 | 5.38E-07 |
| -0.15792  | 5E-07    | 4.67E-07 | 6.64E-07 |
| -0.157467 | 4.41E-07 | 4.67E-07 | 5.33E-07 |
| -0.157079 | 4.91E-07 | 4.78E-07 | 5.24E-07 |
| -0.156432 | 5.21E-07 | 5.32E-07 | 5.72E-07 |
| -0.15598  | 5.25E-07 | 4.95E-07 | 6.54E-07 |
| -0.155527 | 5.67E-07 | 5.01E-07 | 5.77E-07 |
| -0.155268 | 4.36E-07 | 4.61E-07 | 5.03E-07 |
| -0.154622 | 4.56E-07 | 4.35E-07 | 4.9E-07  |
| -0.154104 | 4.21E-07 | 4.86E-07 | 5.65E-07 |
| -0.153587 | 4.86E-07 | 5.15E-07 | 5.65E-07 |
| -0.153134 | 4.38E-07 | 4.27E-07 | 4.85E-07 |
| -0.152488 | 4.99E-07 | 4.45E-07 | 5.9E-07  |
| -0.152165 | 4.56E-07 | 4.03E-07 | 5.04E-07 |
| -0.151453 | 4.82E-07 | 4.29E-07 | 5.36E-07 |
| -0.151259 | 4.83E-07 | 4.25E-07 | 5.72E-07 |
| -0.150677 | 4.5E-07  | 4.4E-07  | 5.69E-07 |
| -0.15003  | 4.9E-07  | 4.09E-07 | 4.9E-07  |

**Table S2.** Normalized voltametric peak height titration data for **Figure 2B**.

| <b>Log (U/ml)</b> | <b>Trial 1</b> | <b>Trial 2</b> | <b>Trial 3</b> | <b>Trial 4</b> | <b>Trial 5</b> | <b>Trial 6</b> |
|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| -2                | 0.824956       | 0.874251       | 0.987609       | 1.000587       | 0.914073       | 0.77525        |
| -1.522879         |                |                |                |                | 0.677448       | 0.778637       |
| -1                | 0.703343       | 0.628812       | 0.530098       | 0.450768       |                | 0.629979       |
| -0.52288          | 0.58173        | 0.618368       | 0.34884        | 0.377517       | 0.467544       | 0.576763       |
| 0                 | 0.446386       | 0.372929       | 0.331571       | 0.339741       | 0.362688       | 0.202744       |
| 0.477121          | 0.246312       | 0.211044       | 0.362284       | 0.367796       | 0.307971       | 0.228985       |
| 1                 | 0.197274       | 0.294597       | 0.439599       | 0.463591       | 0.270276       | 0.307642       |



**Figure S1.** Biosensor response to CD AABs versus buffer control. CD AABs data (black) is reprinted from **Figure 2B**. Buffer data (blue) shows biosensor response when buffer controls were substituted for CD AABs addition.

**Table S3.** Normalized voltametric peak height titration in serum data for **Figure 3A**.

| Log (U/ml) | Trial1   | Trial 2  | Trial 3  |
|------------|----------|----------|----------|
| -2         | 0.487519 |          | 0.713    |
| -1.522879  | 0.641127 | 0.547589 |          |
| -1         | 0.523896 | 0.59988  | 0.637286 |
| -0.52288   | 0.465064 | 0.479224 |          |
| 0          | 0.347917 | 0.451307 | 0.478143 |
| 0.477121   | 0.322277 |          |          |
| 1          | 0.194757 | 0.119871 | 0.079492 |

**Table S4.** voltametric data for off-target analysis.

| CD AABs  | GADPH IgG | Myc/Max  |
|----------|-----------|----------|
| 3.2E-07  | 2.9E-08   | 8.3E-08  |
| 3.11E-07 | 8.88E-08  | 1.27E-07 |
| 2.24E-07 | 2.81E-08  | 5.44E-08 |
| 2.46E-07 | 8.76E-08  |          |
| 6.21E-07 |           |          |
| 1.87E-07 |           |          |