

**Supplementary Table S2.** Long-term stability, freeze-thaw cycles stability, and post-process stability of IgG4 samples kept at -20 °C freezer or autosampler at specific conditions.

| IgG4               | Stability   |             |                              | Autosampler                                 |
|--------------------|-------------|-------------|------------------------------|---|
|                    | 7 days (%)  | 15 days (%) | freeze-thaw <sup>c</sup> (%) | stability <sup>d</sup><br>(post-process, %) |
| Low <sup>a,b</sup> | 100.8 ± 1.2 | 98.2 ± 0.7  | 92.1 ± 0.9                   | 96.0 ± 8.5                                  |
| Medium             | 104.1 ± 1.1 | 99.1 ± 0.8  | 85.3 ± 1.4                   | 89.4 ± 3.1                                  |
| High               | 100.8 ± 1.9 | 100.1 ± 0.6 | 93.7 ± 0.4                   | 92.2 ± 1.7                                  |

<sup>a</sup> The spiked concentrations of human IgG4 were 0.41, 3.3, and 6.6 µg µL<sup>-1</sup> for low, medium, and high QC samples.

<sup>b</sup> The results were performed as: average ± standard deviation

<sup>c</sup> Three freeze-thaw cycles were conducted for evaluation.

<sup>d</sup> The samples were kept in 6°C autosampler (24 hrs) for evaluation.