

Experion Pro260 Analysis Kit Performance Compared to 2100 Bioanalyzer



| Specification | Target or Expected Value | Experion | | 2100 Bioanalyzer | |
|--|---|--|--|--|---|
| | | Interchip | Intrachip | Interchip | Intrachip |
| Quantitation Accuracy | | | | | |
| 100 ng/μl BSA | ±10% vs. UV average | 7% (n = 29) | 3 to 9% | -19.6% (n = 25) | -29 to -9% |
| 100 ng/μl carbonic anhydrase | N/A | 71% (n = 30) | 51 to 88% | 48% (n = 25) | 30 to 61% |
| Calibrated concentration for carbonic anhydrase 100 ng/μl 500 ng/μl | ±10% vs. UV average | 0.2% (n = 15) 15.8% (n = 9) | -28 to 17% 1 to 34% | -8.7% (n = 15) 10.5% (n = 10) | -18 to -1% 3 to 19% |
| Effect of NaCl (3 test conditions) 0.15 M NaCl 0.25 M NaCl 0.5 M NaCl | <10% variation between salt conditions | 92% 93% 90% | 83 to 105% 85 to 107% 82 to 103% | 58% 87% 114% | 28 to 105% 52 to 155% 77 to 177% |
| Quantitation Reproducibility | | | | | |
| 100 ng/μl BSA | CV ≤ 20% | 4.3% (n = 29) | 0.7 to 6% | 19% (n = 25) | 8 to 26% |
| 100 ng/μl carbonic anhydrase | CV ≤ 20% | 10.7% (n = 30) | 4 to 16% | 18.2% (n = 25) | 12 to 22% |
| Calibrated concentration for carbonic anhydrase 100 ng/μl 500 ng/μl | CV ≤ 20% | 17.3% (n = 15) 16.9% (n = 9) | 6 to 12% 0.1 to 11% | 14% (n = 15) 6% (n = 10) | 7 to 18% 1 to 6% |
| Experion ladder (10–150 kD) | CV ≤ 20% | 3 to 16% (n = 29) | 1 to 20% | 7 to 14% (20–150 kD, n = 25) | 1 to 18% (20–150 kD) |
| Mixture of protein standards (14.3–116 kD) | CV ≤ 20% | 4 to 15% (n = 25) | 2 to 16% | 14 to 40% (n = 24) | 7 to 59% |
| Effect of NaCl (3 test conditions) 0.15 M NaCl 0.25 M NaCl 0.5 M NaCl | CV ≤ 20% | 10% 12% 9% | 7 to 14% 9 to 16% 5 to 16% | 28% 31% 20% | 15 to 31% 2 to 33% 4 to 24% |
| Separation Size Range | | | | | |
| Experion ladder (10–260 kD) | All protein peaks resolved | All protein peaks resolved (n = 29) | All protein peaks resolved | All protein peaks resolved except 10 kD protein (n = 25) | All protein peaks resolved except 10 kD protein |
| Mixture of protein standards (14.3–116 kD) | All protein peaks resolved | All protein peaks resolved (n = 25) | All protein peaks resolved | All protein peaks resolved (n = 24) | All protein peaks resolved |
| Sizing Accuracy | | | | | |
| Experion ladder (10–150 kD) | ±3% vs. expected MW | -0.37 to 0.65% (n = 29) | -1 to 1.3% | -4.9 to -0.04% (20–150 kD, n = 25) | -14 to 10% (20–150 kD) |
| 2100 bioanalyzer ladder (14.4–117 kD) | ±10% vs. expected MW | 0.8 to 8% (n = 25) | 0.5 to 8% | -3 to 0.5% (n = 24) | -4 to 1% |
| Effect of NaCl (3 test conditions) 0.15 M NaCl 0.25 M NaCl 0.5 M NaCl | ±10% vs. expected MW | 5.04% 5.16% 5.08% | 4.6 to 5.6% 4.6 to 5.5% 4.5 to 6.0% | -3.03% -2.83% -2.28% | -2.8 to 3.4% -2.5 to 3.4% -1.8 to 2.9% |
| Sizing Reproducibility | | | | | |
| Experion ladder (10–150 kD) | CV ≤ 10% | 0.5 to 1.1% (n = 29) | 0.2 to 1.3% CV | 0.9 to 7.2% (20–150 kD, n = 25) | 0.2 to 0.88% (20–150 kD) |
| 2100 bioanalyzer ladder (14.4–117 kD) | CV ≤ 10% | 0.4 to 0.8% (n = 25) | 0.2 to 1.2% | 0.5 to 1.0% (n = 24) | 0.3 to 1.7% |
| Effect of NaCl (3 test conditions) 0.15 M NaCl 0.25 M NaCl 0.5 M NaCl | CV ≤ 10% | 0.92% 0.52% 0.66% | 0.42 to 1.7% 0.35 to 0.63% 0.30 to 0.74% | 0.77% 0.65% 0.61% | 0.45 to 1.18% 0.20 to 0.94% 0.35 to 0.74% |
| Resolution | | | | | |
| Number of <i>E. coli</i> peaks | ≥25% more <i>E. coli</i> lysate peaks detected vs. competitor | 34.8 peaks (n = 25) | 33.6–35.4 peaks | 23.4 peaks (n = 25) | 22.8–23.8 peaks |
| Linear Dynamic Range | | | | | |
| 2.5–2,000 ng/μl using carbonic anhydrase | r ² ≥ 0.97 | Average r ² = 0.981 (n = 5) | r ² = 0.977–0.989 | Average r ² = 0.983 (>10–2,000 ng/μl, n = 5) | r ² = 0.976–0.989 |
| Sensitivity | | | | | |
| 2.5 ng/μl carbonic anhydrase (10 ng total protein) | S/N ≥ 3 for 2.5 ng/μl | S/N = 20.5 (2 outliers excluded, n = 27) | S/N = 10–31 (2 outliers excluded) | 2.5 ng/μl not detectable; 10 ng/μl detectable | 2.5 ng/μl not detectable; 10 ng/μl detectable |

CV = coefficient of variation; S/N = signal/noise.

For more information, results, and discussion, please request bulletin 5302.

Experion Pro260 Analysis Kit Performance Compared to SDS-PAGE



| Specification | Target or Expected Value | Experion | | SDS-PAGE* | |
|--|--|--|-----------------------------------|---|---|
| | | Interchip | Intrachip | Intergel | Intragel |
| Quantitation Reproducibility | | | | | |
| 100 ng/μl BSA | CV ≤ 20% | 4.3% (n = 29) | 0.7 to 6% | 8.41% (n = 12) | 1.93 to 7.11% |
| 100 ng/μl carbonic anhydrase | CV ≤ 20% | 10.7% (n = 30) | 4 to 16% | 31.37% (n = 12) | 3.06 to 13.27% |
| Experion ladder (10–150 kD) | CV ≤ 20% | 3 to 16% (n = 29) | 1 to 20% | 3.74 to 8.45% (n = 16) | 0.96 to 8.62% |
| Separation Size Range | | | | | |
| Experion ladder (10–260 kD) | All protein peaks resolved | All protein peaks resolved (n = 29) | All protein peaks resolved | All protein peaks resolved (n = 12) | All protein peaks resolved |
| Mixture of protein standards (14.3–116 kD) | All protein peaks resolved | All protein peaks resolved (n = 25) | All protein peaks resolved | All protein peaks resolved (n = 25) | All protein peaks resolved |
| Sizing Accuracy | | | | | |
| Experion ladder (10–150 kD) | ±3% vs. expected MW | –0.37 to 0.65% (n = 29) | –1.0 to 1.3% | –7.70 to 3.14% (n = 12) | –12.13 to 6.62% |
| Mixture of protein standards (14.3–116 kD) | Fragments in the protein mixture are sized using Experion ladder | –8.6 to 8.5% (n = 25) | –9.04 to 9.01% | –20.11 to 1.06% (n = 25) | –22.6 to 3.6% |
| Sizing Reproducibility | | | | | |
| Experion ladder (10–150 kD) | CV ≤ 10% | 0.47 to 1.1% (n = 29) | 0.2 to 1.3% | 3.57 to 4.74% (n = 12) | 0.42 to 3.53% |
| Mixture of protein standards (14.3–116 kD) | CV ≤ 10% | 0.45 to 1.0% (n = 25) | 0.15 to 1.37% | 2.67 to 3.78% (n = 25) | 0.62 to 4.25% |
| Resolution | | | | | |
| Number of <i>E. coli</i> peaks | ≥25% more <i>E. coli</i> lysate peaks detected vs. competitor | 34.8 peaks (n = 25) | 33.6–35.4 peaks | 32.9 peaks (n = 12) | 31–36 peaks |
| Linear Dynamic Range | | | | | |
| 2.5–2,000 ng/μl using carbonic anhydrase | r ² ≥ 0.97 | Average r ² = 0.9887 (n = 5) | r ² = 0.977–0.989 | Average r ² = 0.967 (n = 4) | r ² = 0.963–0.973 |
| Sensitivity | | | | | |
| 2.5 ng/μl carbonic anhydrase (10 ng total protein) | S/N ≥ 3 for 2.5 ng/μl | S/N = 20.5 (2 outliers excluded, n = 27) | S/N = 10–31 (2 outliers excluded) | 2.5 ng/μl not detectable; 10 ng/μl detectable | 2.5 ng/μl not detectable; 10 ng/μl detectable |

CV = coefficient of variation; S/N = signal/noise.

* Criterion™ Tris-HCl 4–20% precast gels.