

**Supplemental Table 1 : Peptide Quantitation of Standard Mixtures by IsoQuant**

**Supplemental Table 2 : Protein Quantiation of Standard Mixtures by IsoQuant**

**Supplemental Table 3 : Peptide Quantitation of Standard Mixtures by Proteome Discoverer.**

**Supplemental Table 4 : Protein Quantitation of Standard Mixtures by Proteome Discoverer.**

**Supplemental Table 5.** Comparison of peptide quantitation performance by IsoQuant and Proteome Discoverer using various known SILAC mixture standards.

Expected ratio	IsoQuant ratio	SD	Proteome Discoverer ratio	
				SD
1	0.98	0.01	0.98	0.01
2	1.97	0.05	1.96	0.12
5	5.36	0.12	5.20	0.06
10	11.96	0.44	10.91	0.18
25	26.26	0.06	24.87	0.47
50	53.19	3.20	40.19	0.39
100	82.53	4.57	58.09	3.57

**Supplemental Table 6.** Comparison of protein quantitation by IsoQuant and Proteome Discoverer using various known SILAC mixture standards.

Expected ratio	IsoQuant ratio	SD	Proteome Discoverer ratio	
				SD
1	0.96	0.04	0.96	0.02
2	1.93	0.11	1.97	0.06
5	5.24	0.09	5.18	0.05
10	11.06	0.53	10.45	0.15
25	24.64	0.77	23.93	0.74
50	47.95	1.51	38.64	1.70
100	68.97	3.77	51.96	3.00