**Supporting Information**

Table S1. Chromatographic conditions for milk and egg marker peptides separations.

|  |  |
| --- | --- |
| **Column** | Perkin Elmer Aqueous C18 Column (2.1 x 150 mm; 3 µm; 100 Å)  |
| **Mobile phase** | Solvent A: H2O + 0.1% Formic acid  |
| Solvent B: Acetonitrile + 0.1% Formic acid |
| **Time (min)** | **%A**  | **%B**  |
| 0 | 90 | 10 |
| 17 | 50 | 50 |
| 17.2  | 10 | 90 |
| 27 | 10 | 90 |
| 27.2  | 90 | 10 |
| 44 | 90 | 10 |
| **Oven Temperature:** 30°C |   |   |
| **Flow:** 200 µL/mL |  |   |
| **Injection volume:** 10 µL |   |   |

Table S2. SRM conditions for the simultaneous detection of milk and egg marker peptides by QSight platform.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Protein** | **Peptide sequence** | **Precursor ion/charge** | **Retention time (min)** | **Acquisition Window (min)** | **Transition (m/z)** | **EV** | **CCL2** | **CE** |
| αS1-casein | FFVAPFPEVFGK(FFV) | 693.1 (+2) | 13.1±0.02 | 12.59-13.59 | 920.3 (y8+) | 15 | -168 | -26 |
| 991.4 (y9+) | 17 | -168 | -26 |
| 1090.4 (y10+) | 25 | -172 | 26 |
| YLGYLEQLLR(YLG) | 634.6 (+2) | 12.5±0.01 | 11.98-12.98 | 658.2 (y5+) | 31 | -124 | -28 |
| 771.3 (y6+) | 23 | -152 | -28 |
| 991.4 (y8+) | 24 | -140 | -27 |
| β-Lactoglobulin | TPEVDDEALEK(TPE) | 623.2 (+2)  | 5.8±0.01 | 5.31-6.31 | 572.5 (y102+) | 35 | -192 | -29 |
| 1047 (y9+) | 45 | -170 | 30 |
| 819.1 (y7+) | 41 | -196 | -29 |
| VLVLDTDYK(VLV) | 533.2 (+2)  | 8.3±0.01 | 7.82-8.82 | 853 (y7+) | 22 | -100 | -22 |
| 640.8 (y5+) | 24 | -108 | -24 |
| 753.9 (y6+) | 18 | -100 | -22 |
| Vitellogenin-2 | NIPFAEYPTYK(NIP) | 671.6 (+2)  | 9.1±0.01 | 8.65-9.66 | 557.9 (y92+) | 25 | -140 | -25 |
| 507.9 (y4+) | 33 | -180 | -39 |
| 1114.9 (y9+) | 25 | -132 | -23 |
| NIGELGVEK(NIG) | 479.7 (+2)  | 6.5±0.01 | 6.01-7.01 | 673.9 (y6+) | 27 | -120 | -21 |
| 228.0 (b2+) | 24 | -88 | -18 |
| 544.8 (y5+) | 27 | -124 | -24 |
| Ovalbumin | ISQAVHAAHAEINEAGR(ISQ) | 592.1 (+3)  | 4.3±0.01 | 3.80-4.80 | 778.5 (y7+) | 42 | -128 | -31 |
| 858.9 (y8+) | 30 | -204 | -29 |
| 545.9 (y5+) | 20 | -200 | -40 |
| GGLEPINFQTAADQAR(GGL) | 844.7 (+2)  | 8.9±0.01 | 8.44-9.45 | 1007.4 (y9+) | 50 | -272 | -51 |
| 1331.6 (y12+) | 29 | -336 | -35 |
| 1121.2 (y10+) | 38 | -380 | -40 |

Table S3. Recovery table estimated with the aid of MoniQA reference materials incurred at low (3.54 µgtot prot/gmatrix) and high (17.7 µgtot prot/gmatrix) levels with milk ingredient.

|  |  |  |
| --- | --- | --- |
| **Peptide/transition** | **LOW-MQA 102016 incurred material** | **HIGH-MQA 082016 incurred material** |
| *Measured concentration* | *Validated concentration* | *Recovery* | *Measured concentration* | *Validated concentration* | *Recovery* |
| 634.4/991.4 | 2,0±0,2 | 3,54 | 57±6 % | 10,0±1,3 | 17,7 | 56±7 % |
| 692.9/991.4 | 2,0±0,2 | 3,54 | 57±4 % | 8,9±0,5 | 17,7 | 50±2 % |