Supplemental Table S1. Estimated peptides in collagen hydrolysate (CH) before digestion.

| **Precursor ion (m/z)** | **MW** | **Estimated sequence** **(3 letter)** | **Estimated sequence** **(1 letter)** | **Product Ion (m/z)** |
| --- | --- | --- | --- | --- |
| 132.1 | 131.1 | Ile | I | 30.3, 44.2, 69.1, 86.1 (\*Ile), 132.2 (y1) |
| 132.1 | 131.1 | Leu | L | 30.3, 44.2, 86.1 (\*Leu), 132.3 (y1) |
| 166.0 | 165.0 | Phe | F | 120.1 (\*Phe), 166.1 (y1) |
| 182.1 | 181.1 | Tyr | Y  | 65.1, 77.1, 91.1, 107.0, 119.0, 136.1 (\*Tyr), 165.0, 182.0 (y1) |
| 189.1 | 188.1 | Ala-Val | AV | 22.2, 44.3 (\*Ala), 72.2 (\*Val), 118.0 (y1), 143.2, 189.0 (y2) |
| 189.1 | 188.1 | Leu-Gly | LG | 30.3 (\*Gly), 43.3, 44.2, 86.1 (\*Leu), 189.0 (y2) |
| 189.1 | 188.1 | Gly-Leu | GL | 30.3 (\*Gly), 44.2, 86.1 (\*Leu), 132.2 (y1), 189.0 (y2) |
| 203.1 | 202.1 | Ile-Ala | IA  | 30.2, 44.2, 69.2, 86.1 (\*Ile) |
| 203.1 | 202.1 | Leu-Ala | LA | 30.4, 44.3 (\*Ala), 86.1 (\*Leu) |
| 203.1 | 202.1 | Ala-Leu | AL | 30.1, 44.3 (\*Ala), 86.1 (\*leu), 132.1 (y1) |
| 205.1 | 204.1 | Trp | W |  159.1 (\*Trp), 205.1 (y1) |
| 207.1 | 206.1 | Phe-ACN | F-acetonitrile | 77.1, 79.2, 103.1, 120.0 (\*Phe), 166.1 (y1) |
| 214.6 | 213.6 | Val-Pro | VP | 41.9, 55.3, 70.2 (\*Pro), 72.2 (\*Val), 73.1, 86.0, 116.2 (y1), 129.2, 215.0 (y2) |
| 217.1 | 216.1 | Val-Val | VV | 55.1, 72.2 (\*Val), 118.0 (y1), 217.0 (y2) |
| 219.1 | 218.1 | Val-Thr | VT | 29.5, 43.4, 55.2, 71.8 (\*Val), 74.2 (Thr), 84.2, 101.9, 120.4 (y1) |
| 219.1 | 218.1 | Ser-Leu | SL | 330.5, 42.3, 60.1, 86.1 (\*Leu), 132.0 (y1), 219.0 (y2) |
| 223.1 | 222.1 | Gly-Phe | GF | 30.1 (\*Gly), 103.1, 120.1 (\*Phe), 166.1 (y1) |
| 231.1 | 230.1 | Val-Ile | VI | 30.4 (\*Gly), 44.3 (\*Ala), 69.2, 72.1 (\*Val), 86.2 (\*Ile) |
| 231.1 | 230.1 | Val-Leu | VL | 30.4 (\*Gly), 44.3 (\*Ala), 69.2, 86.2 (\*Leu) |
| 233.1 | 232.1 | Leu-Thr | LT | 30.6, 44.3 (\*Ala), 55.8, 86.2 (\*Leu), 119.8 (y1), 152.1 |
| 233.1 | 232.1 | Thr-Leu | TL | 29.2, 56.3, 74.2 (\*Thr), 86.1 (\*Leu), 132.1 (y1), 233.1 (y2) |
| 243.1 | 242.1 | pGlu-Leu | pEL | 30.7, 41.3, 56.3, 84.1 (\*pE), 86.2 (\*Leu), 142.0, 197.1 |
| 244.1 | 243.1 | Gly-Pro-Ala | GPA | 30.1 (\*Gly), 70.1 (\*Pro), 127.1, 155.0 (b2), 187.0 (y2), 226.9, 244.0 (y3) |
| 245.1 | 244.1 | Ile-Ile | II | 30.3, 41.3, 44.3, 69.1, 86.2 (\*Ile/Leu), 131.9 (y1) |
| 245.1 | 244.1 | Leu-Leu | LL | 30.3, 41.3, 44.3, 86.2 (\*Ile/Leu), 131.9 (y1) |
| 249.1 | 248.1 | Val-Met | VM | 55.2, 72.1 (\*Val), 104.1 (\*Met), 133.1, 150.0 (y1) |
| 260.1 | 259.1 | Gln-Ile | QI | 30.5, 44.2, 69.2, 84.0, 86.1 (\*Ile), 101.1 (\*Gln), 130.0, 147.1 (y1), 243.2, 260.0 (y2) |
| 260.1 | 259.1 | Gln-Leu | QL | 30.5, 44.2, 84.0, 86.1 (\*Leu), 101.1 (\*Gln), 130.0, 147.1 (y1), 243.2, 260.0 (y2) |
| 261.1 | 260.1 | pGlu-Met | pEM | 55.9, 61.2, 84.1 (pE), 87.0, 101.8, 104.2 (\*Met), 130.3, 149.6 (y1), 167.2, 212.8, 261.1 (y2) |
| 263.1 | 262.1 | Ile-Met | IM | 30.5, 44.2, 69.1, 86.2 (\*Ile), 104.2 (\*Met), 133.2, 150.0 (y1), 263.0 (y2) |
| 263.1 | 262.1 | Leu-Met | LM | 30.4, 44.1, 70.1, 86.2 (\*Leu), 103.9 (\*Met), 133.2, 149.9 (y1), 262.9 (y2) |
| 265.1 | 264.1 | Phe-Val | FV | 71.9 (\*Val), 103.2, 118.1 (y1), 120.0 (\*Phe), 137.1 |
| 265.1 | 264.1 | Val-Phe | VF | 55.1, 72.1 (\*Val), 102.8, 120.1 (\*Phe), 166.0 (y1), 264.9 (y2) |
| 267.1 | 266.1 | Phe-Thr | FT | 56.3, 74.1 (\*Met), 77.2, 103.1, 120.0 (\*Phe or y1) |
| 277.1 | 276.1 | pGlu-Phe | pEF | 41.2, 84.2 (\*pGlu), 119.9 (\*Phe), 165.1 (y1), 230.8, 277.2 (y2) |
| 279.1 | 278.1 | Glu-Met | EM | 44.2, 56.1, 84.1, 86.1, 102.2, 104.1, 129.8, 132.9, 150.1, 167.1, 213.1, 214.9, 237.9, 242.8, 261.1, 279.2 |
| 279.1 | 278.1 | Ile-Phe | IF | 30.6, 41.4, 44.3, 69.1, 86.2 (\*Ile), 103.2, 120.2 (\*Phe), 166.0 (y1), 279.0 (y2) |
| 279.1 | 278.1 | Phe-Leu | FL | 30.5, 86.1 (\*Leu), 103.1, 120.1 (\*Phe), 279.0 (y2) |
| 279.1 | 278.1 | Leu-Phe | LF | 30.3, 44.0, 86.2 (\*Leu), 103.2, 120.2 (\*Phe), 166.0 (y1), 279.0 (y2) |
| 281.1 | 280.1 | Val-Tyr | VY | 55.2, 72.1 (\*Val), 91.2, 136.0 (\*Tyr), 164.7, 182.0 (\*Tyr) |
| 286.1 | 285.1 | Gly-Pro-Hyp | GPO | 30.5, 70.2, 116.1 (y1), 127.1, 131.1 (y1), 155.1 (b2), 229.1 (y2), 286.0 (y3) |
| 293.1 | 292.1 | pGlu-Tyr | pEY | 56.3, 83.9 (\*pGlu), 90.8, 119.2, 122.7, 136.3 (\*Tyr), 147.4, 181.9 (y1), 202.1, 247.0, 292.8 (y2) |
| 294.1 | 293.1 | Phe-Gln | FQ | 84.1, 93.0, 100.9 (\*Gln), 103.0, 120.1 (\*Phe), 130.0, 147 (y1).0, 165.0, 242.2, 277.0, 294.0 (y2) |
| 295.1 | 294.1 | Glu-Phe | EF | 41.2, 56.2, 84.0, 103.1, 120.1 (\*Phe), 130.1, 166.0 (y1), 185.8, 231.2, 277.0  |
| 295.1 | 294.1 | Tyr-Leu or Leu-Tyr | YL or LY | 30.9, 73.8 (\*Thr), 85.9 (\*Leu), 91.0, 118.8, 136.1 (\*Tyr), 220.8, 235.0, 248.9, 278.1, 294.9 (y2) |
| 297.1 | 296.1 | Phe-Met | FM | 56.2, 84.1, 103.0, 120.1 (\*Phe), 133.1, 150.0 (y1), 251.0, 297.0 (y2) |
| 304.1 | 303.1 | Gly-Pro-Met | GPM | 70.2, 86.1, 104.2 (\*Met), 127.1, 150.0 (y1), 154.9, 247.1, 286.8 (y2), 304.0 (y3)  |
| 309.7 | 308.7 | Phe-Ser-Gly | FSG | 60.1 (\*Ser), 103.1, 120.1 (\*Phe), 162.9, 207.0, 235.0, 291.9, 309.9 (y3) |
| 315.1 | 314.1 | Ala-Gly-Pro-Ala | AGPA | 44.5, 70.2 (\*Pro), 127.0, 155.2, 155.2, 187.1 (y2), 226.0 (b3), 244.1 (y3), 315.0 (y4) |
| 329.1 | 328.1 | Gly-Pro-Arg | GPR | 30.1 (Gly), 60.1, 70.2 (\*Pro), 116.2 (y1), 126.9, 175.1 (y1), 215.2, 255.0 (b2), 293.0, 329.0 (y3) |
| 357.2 | 356.2 | Ala-Pro-Val-Ala | APVA | 44.6, 69.9, 72.4, 126.9, 158.9, 234.8, 249.4, 277.8, 357.4 |
| 357.2 | 356.2 | Ile-Gly-Pro-Ala | IGPA | 70.3, 86.3, 127.0, 155.0, 173.0, 186.8, 357.0 |
| 357.2 | 356.2 | Leu-Gly-Pro-Ala | LGPA | 70.2, 86.1, 127.2, 155.0, 173.0, 187.1, 357.0 |
| 373.2 | 372.2 | Hyp-Gly-Pro-Ser | OGPS | 70.3, 86.2, 127.0, 154.9, 202.7 (y2), 241.9, 241.9, 260.0, 372.9 (y4) |
| 383.2 | 382.2 | Pro-Leu-Gly-Pro | PLGP | 70.2 (\*Pro), 172.9 (y2) |
| 388.1 | 387.1 | Gly-Pro-Ser-Gly-Ala | GPSGA | 30.1, 60.4, 70.2, 86.4, 126.8, 154.9, 170.8, 260.0 (b3), 387.8 (y5) |
| 393.1 | 392.1 | Gly-Phe-Hyp-Gly | GFOG | 86.2, 120.1, 188.9 (y2) |
| 398.2 | 397.2 | Pro-Gln-Gly-Pro | PQGP | 70.2 (\*Pro), 116.2 (y1), 127.2, 155.0, 172.8, 226.0, 254.9 (y3), 285.0 (b3), 379.9, 397.6 (y4) |
| 400.2 | 399.2 | Val-Gly-Pro-Gln | VGPQ | 70.3, 72.1, 84.1, 100.7, 127.0, 147.1, 154.9, 243.8 (y2), 301.1 (y3), 400.0 (y4) |
| 401.0 | 400.0 | Pro-Gly-Pro-Met | PGPM | 70.2 (\*Pro), 127.0, 154.9, 246.6, 303.8 (y3), 400.9 |
| 417.2 | 416.2 | Leu-Gly-Pro-Met | LGPM | 70.3 (\*Pro), 86.1 (\*Leu), 126.9, 150.0 (y1), 155.0, 247.0, 303.8 (y2), 417.0 (y4) |
| 423.2 | 422.2 | Pro-Gly-His-Leu | PGHL | 44.0 (\*Ala), 70.3 (\*Pro), 186.9, 378.3, 422.7 (y4) |
| 469.2 | 468.2 | pGlu-Gly-Pro-Gln-Gly | pEGPQG | 70.1 (\*Pro), 127.1, 155.0, 187.0, 244.0, 282.1, 469.1 |
| 472.2 | 471.2 | pGlu-Gly-Pro-Pro-Ile-Gly | pEGPPIG  | 70.0 (\*Pro), 84.0 (\*pGlu), 86.2 (\*Ile), 116.0 (y1), 125.0, 143.0, 171.0, 189.0 (Pro-Ile), 284.0 (b3), 472.0 (y6) |
| 472.2 | 471.2 | pGlu-Gly-Pro-Pro-Leu-Gly | pEGPPLG | 70.0 (\*Pro), 84.0 (\*pGlu), 86.2 (\*Leu), 116.0 (y1), 125.0, 143.0, 171.0, 189.0 (Pro-Leu), 284.0 (b3), 472.0 (y6) |
| 485.1 | 484.1 | Gly-Ala-Hyp-Gly-Pro-Ala | GAOGPA | 70.2 (\*Pro), 86.0 (\*Ile/Leu/Hyp), 127.0, 154.9, 171.0, 187.0, 244.0 (y3), 202.0, 339.0, 357.0, 484.9 (y6) |
| 488.0 | 487.0 | Hyp-Gly-Leu-Trp | OGLW | 86.1 (\*Hyp/Ile/Leu), 143.1, 147.8, 170.9, 205.0, 317.8 (y2), 488.1 (y4) |
| 511.2 | 510.2 | Pro-Leu-Gly-Pro-Gln | PLGPQ | 70.2 (\*Pro), 100.9 (\*Gln), 106.0 (y1), 127.1, 154.9, 179.8, 229.1 (b2), 282.7 (y3), 285.8 (b3), 396.2, 510.8 (y5) |
| 513.2 | 512.2 | Gly-Pro-Val-Gly-Pro-Ser | GPVGPS | 70.2 (\*Pro), 72.4 (\*Val), 106.0 (y1), 127.0, 155.0, 203.0 (Pro-Val), 260.0 (y3), 310.6, 408.0 (b5), 512.9 (y6) |