|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Concentration of amino acids (μmol/L) | | | | | | | | | | | | | | | | | | | | |
| **Sample ID** | ASP | GLU | ASN | SER | GLN | HIS | GLY | THR | ASN | ALA | TYR | CYS | VAL | MET | TRP | PHE | ILE | LEU | LYS | PRO |
| **IR1** | 4.9 | 39.4 | 32.6 | 44.9 | 382.0 | 50.3 | 104.3 | 117.7 | 36.5 | 241.5 | 31.4 | 26.6 | 160.8 | 24.4 | 61.9 | 38.0 | 45.6 | 78.0 | 110.8 | 265.4 |
| **IR2** | 6.5 | 6.6 | 46.8 | 54.6 | 449.4 | 65.4 | 148.0 | 126.2 | 29.9 | 334.3 | 50.9 | 22.3 | 153.4 | 30.4 | 57.7 | 47.4 | 47.1 | 75.5 | 142.3 | 394.2 |
| **IR3** | 5.4 | 67.9 | 22.7 | 24.1 | 283.9 | 53.2 | 94.9 | 79.0 | 15.5 | 224.5 | 23.4 | 16.5 | 137.4 | 18.2 | 57.2 | 33.4 | 27.1 | 50.0 | 83.1 | 204.7 |
| **IR4** | 13.7 | 62.3 | 43.8 | 68.7 | 421.1 | 56.0 | 218.0 | 126.6 | 30.0 | 279.5 | 24.6 | 22.7 | 139.4 | 19.7 | 39.2 | 36.3 | 29.9 | 58.6 | 92.3 | 132.0 |
| **IR5** | 7.5 | 103.3 | 33.7 | 45.4 | 352.3 | 61.5 | 100.3 | 78.7 | 36.5 | 339.3 | 27.9 | 25.1 | 170.9 | 18.1 | 49.6 | 42.7 | 30.9 | 61.1 | 100.4 | 119.7 |
| **IR6** | 6.9 | 64.5 | 29.9 | 59.7 | 352.9 | 46.9 | 134.1 | 140.1 | 46.7 | 274.0 | 50.3 | 32.0 | 187.5 | 19.1 | 46.1 | 42.9 | 42.5 | 73.5 | 115.9 | 186.0 |
| **IR7** | 8.0 | 123.9 | 55.5 | 100.9 | 405.2 | 78.0 | 137.5 | 170.1 | 35.7 | 276.8 | 26.6 | 74.0 | 246.9 | 75.5 | 71.9 | 58.1 | 52.1 | 89.3 | 139.9 | 178.0 |
| **IR8** | 13.1 | 77.5 | 45.4 | 60.1 | 427.7 | 80.8 | 96.7 | 167.3 | 33.9 | 271.3 | 68.3 | 11.3 | 298.5 | 31.6 | 52.9 | 61.4 | 71.6 | 133.6 | 129.2 | 430.7 |
| **IR9** | 10.7 | 60.2 | 26.0 | 35.8 | 236.0 | 50.5 | 52.0 | 84.4 | 19.3 | 178.8 | 22.1 | 15.4 | 123.2 | 14.1 | 39.0 | 39.9 | 26.7 | 47.6 | 69.6 | 98.7 |
| **IR10** | 10.7 | 93.3 | 30.2 | 63.5 | 344.3 | 42.3 | 148.5 | 133.1 | 32.3 | 336.7 | 50.2 | 17.4 | 224.7 | 21.2 | 47.2 | 50.4 | 41.2 | 79.6 | 111.9 | 224.8 |
| **IR11** | 11.5 | 69.9 | 41.7 | 49.3 | 495.3 | 66.0 | 158.7 | 131.6 | 49.2 | 371.6 | 42.8 | 21.1 | 179.8 | 23.5 | 54.8 | 54.5 | 37.8 | 66.0 | 102.2 | 202.3 |
| **NIR1** | 5.8 | 63.3 | 32.7 | 55.7 | 434.4 | 60.8 | 149.3 | 131.0 | 34.0 | 244.1 | 31.1 | 38.8 | 135.8 | 19.5 | 54.4 | 40.7 | 38.6 | 60.9 | 90.3 | 173.9 |
| **NIR2** | 4.7 | 57.8 | 32.4 | 66.5 | 408.1 | 56.1 | 176.0 | 107.7 | 36.3 | 236.9 | 29.2 | 34.6 | 131.7 | 16.7 | 51.9 | 37.3 | 28.9 | 51.0 | 87.6 | 138.8 |
| **NIR3** | 7.4 | 81.0 | 35.0 | 64.2 | 467.0 | 73.5 | 221.5 | 161.8 | 32.0 | 310.0 | 30.4 | 25.3 | 224.1 | 19.1 | 65.8 | 43.8 | 61.8 | 95.3 | 116.9 | 128.3 |
| **NIR4** | 10.0 | 90.7 | 32.6 | 53.6 | 394.4 | 63.8 | 170.0 | 126.0 | 34.4 | 225.6 | 30.3 | 32.9 | 164.5 | 15.6 | 48.9 | 46.4 | 35.6 | 74.5 | 119.5 | 105.2 |
| **NIR5** | 10.6 | 80.8 | 42.9 | 69.3 | 589.2 | 66.4 | 245.8 | 149.8 | 53.8 | 246.5 | 30.5 | 27.4 | 102.5 | 18.2 | 47.1 | 36.3 | 25.7 | 45.6 | 75.1 | 141.5 |
| **NIR6** | 7.1 | 56.7 | 49.6 | 81.5 | 527.3 | 70.1 | 181.8 | 196.7 | 39.6 | 276.8 | 24.8 | 34.8 | 160.4 | 21.2 | 50.7 | 40.3 | 37.5 | 62.2 | 116.0 | 158.3 |
| **NIR7** | 6.8 | 75.8 | 48.8 | 83.0 | 414.1 | 65.4 | 262.3 | 151.0 | 39.4 | 223.3 | 27.1 | 27.3 | 145.4 | 17.5 | 35.0 | 38.0 | 39.3 | 69.7 | 126.8 | 132.7 |
| **NIR8** | 7.6 | 64.5 | 42.0 | 65.6 | 516.3 | 65.7 | 211.8 | 158.3 | 44.3 | 275.1 | 33.0 | 36.7 | 127.5 | 22.6 | 49.9 | 47.4 | 29.6 | 55.0 | 118.5 | 228.5 |
| **NIR9** | 4.7 | 49.0 | 54.9 | 96.3 | 768.8 | 80.8 | 333.0 | 191.7 | 76.4 | 273.2 | 35.7 | 40.5 | 170.5 | 25.7 | 42.0 | 50.8 | 46.0 | 97.4 | 155.6 | 171.1 |
| **NIR10** | 5.2 | 50.1 | 38.0 | 55.2 | 375.2 | 60.9 | 139.9 | 129.3 | 28.2 | 203.7 | 25.4 | 26.2 | 140.0 | 18.5 | 53.6 | 40.3 | 42.0 | 68.0 | 84.0 | 100.8 |
| **NIR11** | 6.2 | 60.2 | 25.5 | 40.8 | 310.4 | 52.9 | 97.8 | 95.8 | 18.5 | 172.2 | 19.7 | 19.1 | 128.6 | 14.8 | 55.1 | 35.0 | 30.7 | 46.9 | 62.5 | 107.2 |
| **NIR12** | 5.0 | 43.7 | 39.4 | 62.4 | 388.3 | 76.8 | 140.8 | 69.0 | 40.9 | 188.3 | 33.3 | 63.7 | 141.3 | 30.0 | 57.1 | 55.7 | 35.9 | 67.6 | 108.6 | 197.2 |
| **NIR13** | 3.0 | 16.6 | 43.3 | 78.8 | 413.6 | 76.6 | 163.2 | 126.8 | 54.2 | 272.5 | 55.1 | 24.9 | 227.0 | 29.3 | 63.9 | 60.3 | 51.4 | 104.6 | 170.1 | 285.1 |
| **NIR14** | 4.3 | 35.3 | 38.0 | 66.8 | 354.0 | 65.1 | 177.0 | 103.0 | 38.2 | 192.7 | 31.0 | 15.5 | 226.1 | 18.3 | 65.2 | 48.4 | 46.2 | 81.7 | 93.9 | 128.7 |
| **NIR15** | 10.1 | 93.8 | 39.9 | 60.8 | 509.3 | 67.2 | 254.6 | 128.7 | 30.3 | 288.5 | 26.3 | 30.7 | 135.7 | 21.8 | 59.1 | 39.2 | 31.7 | 48.7 | 84.3 | 290.9 |
| **NIR16** | 6.7 | 67.3 | 39.4 | 75.6 | 371.5 | 58.5 | 177.1 | 112.8 | 55.7 | 258.0 | 31.7 | 20.4 | 169.3 | 20.6 | 48.0 | 39.9 | 39.5 | 70.9 | 113.6 | 128.3 |
| **NIR17** | 5.4 | 42.4 | 46.8 | 68.4 | 439.8 | 75.4 | 179.3 | 213.8 | 41.5 | 266.4 | 36.9 | 31.1 | 182.9 | 26.7 | 60.9 | 49.7 | 45.4 | 79.7 | 124.5 | 125.7 |
| **NIR18** | 4.7 | 53.3 | 30.5 | 53.6 | 462.3 | 64.3 | 148.9 | 106.2 | 50.1 | 264.7 | 30.7 | 24.1 | 164.6 | 24.1 | 60.9 | 34.6 | 34.2 | 67.1 | 129.8 | 269.3 |
| **NIR19** | 8.2 | 80.4 | 32.8 | 46.8 | 329.7 | 66.8 | 140.5 | 86.9 | 33.4 | 309.4 | 25.8 | 55.8 | 169.4 | 28.1 | 66.4 | 44.9 | 40.1 | 63.7 | 97.0 | 206.5 |
| **NIR20** | 4.4 | 45.2 | 35.2 | 50.2 | 368.3 | 62.7 | 183.2 | 63.4 | 19.6 | 236.3 | 29.7 | 20.3 | 90.8 | 17.2 | 43.2 | 28.9 | 16.4 | 44.6 | 82.1 | 179.5 |
| **NIR21** | 9.0 | 72.6 | 38.6 | 61.0 | 402.7 | 64.1 | 154.4 | 103.2 | 47.1 | 221.2 | 30.1 | 25.1 | 116.8 | 24.9 | 67.2 | 46.6 | 24.4 | 46.6 | 112.6 | 142.3 |
| **NIR22** | 7.2 | 49.1 | 31.6 | 50.3 | 340.1 | 49.7 | 130.9 | 117.5 | 30.5 | 157.6 | 26.1 | 19.4 | 141.9 | 20.8 | 60.7 | 41.5 | 30.4 | 58.5 | 99.2 | 185.2 |
| **NIR23** | 5.7 | 50.8 | 38.5 | 57.3 | 427.1 | 72.2 | 178.7 | 88.5 | 30.3 | 203.1 | 31.9 | 20.7 | 247.2 | 19.5 | 54.5 | 44.5 | 41.8 | 83.6 | 120.7 | 148.3 |
| **NIR24** | 7.5 | 83.1 | 33.9 | 59.2 | 462.6 | 65.0 | 160.3 | 91.1 | 50.6 | 388.6 | 50.9 | 25.5 | 166.5 | 23.5 | 51.3 | 48.7 | 31.3 | 68.1 | 117.7 | 253.8 |
| **NIR25** | 6.9 | 56.2 | 38.0 | 50.3 | 465.0 | 64.9 | 171.1 | 100.8 | 38.9 | 199.0 | 28.1 | 30.7 | 148.9 | 18.7 | 51.8 | 44.7 | 33.2 | 65.1 | 107.2 | 223.9 |
| **NIR26** | 9.6 | 83.1 | 46.5 | 61.1 | 451.5 | 69.9 | 217.9 | 242.3 | 33.7 | 372.9 | 41.0 | 33.7 | 174.2 | 24.8 | 56.8 | 48.0 | 37.7 | 61.0 | 96.9 | 235.5 |
| **NIR27** | 6.7 | 67.3 | 39.4 | 75.6 | 371.5 | 58.5 | 177.1 | 112.8 | 55.7 | 258.0 | 31.7 | 20.4 | 169.3 | 20.6 | 48.0 | 39.9 | 39.5 | 70.9 | 113.6 | 128.3 |
| **NIR28** | 7.0 | 56.0 | 47.7 | 69.1 | 397.5 | 69.1 | 209.8 | 125.7 | 35.8 | 248.0 | 38.1 | 27.7 | 137.0 | 26.9 | 55.4 | 52.6 | 27.9 | 59.5 | 96.7 | 177.4 |
| **NIR29** | 5.6 | 60.4 | 39.4 | 60.6 | 349.2 | 63.1 | 160.5 | 111.9 | 37.4 | 233.6 | 27.9 | 27.4 | 111.0 | 16.4 | 45.7 | 40.5 | 20.8 | 41.7 | 95.9 | 94.9 |
| **NIR30** | 7.0 | 75.3 | 32.7 | 62.6 | 330.0 | 60.6 | 177.5 | 132.7 | 39.5 | 403.1 | 34.3 | 40.9 | 141.8 | 19.5 | 50.4 | 40.8 | 39.4 | 60.5 | 96.5 | 218.1 |
| **NIR31** | 4.1 | 47.9 | 30.7 | 48.8 | 389.9 | 58.9 | 155.4 | 97.4 | 28.5 | 200.1 | 22.0 | 29.8 | 111.9 | 16.8 | 49.1 | 38.0 | 28.2 | 43.8 | 92.9 | 140.4 |
| **NIR32** | 6.5 | 61.2 | 38.5 | 49.4 | 353.2 | 57.4 | 217.6 | 131.8 | 31.6 | 241.8 | 26.5 | 21.5 | 138.2 | 23.9 | 43.6 | 42.2 | 26.4 | 46.9 | 94.5 | 150.9 |
| **NIR33** | 6.0 | 62.5 | 46.7 | 92.4 | 480.1 | 67.7 | 262.2 | 125.8 | 43.4 | 242.2 | 23.6 | 21.6 | 151.9 | 21.7 | 48.4 | 49.7 | 45.6 | 70.2 | 109.5 | 165.1 |
| **NIR34** | 5.3 | 43.8 | 47.5 | 74.8 | 539.4 | 74.2 | 196.0 | 145.2 | 45.4 | 285.6 | 35.2 | 34.6 | 138.6 | 21.0 | 47.0 | 44.2 | 35.4 | 69.5 | 124.1 | 133.7 |
| **NIR35** | 6.8 | 97.8 | 41.4 | 57.4 | 468.0 | 73.1 | 161.6 | 193.7 | 50.7 | 391.8 | 45.4 | 23.2 | 223.8 | 26.1 | 68.1 | 48.4 | 58.7 | 87.5 | 140.2 | 178.9 |
| **NIR36** | 11.3 | 75.3 | 40.2 | 77.0 | 358.7 | 67.9 | 111.4 | 143.3 | 48.2 | 425.6 | 43.3 | 32.2 | 181.9 | 24.6 | 55.0 | 47.1 | 48.8 | 77.2 | 125.2 | 251.2 |

**Supplementary Table 1.** Concentration values of the amino acid measurements from the 47 follicular fluid samples. Abbreviations: ASP: aspartic acid, GLU: glutamic acid, ASN: asparagine, SER: serine, GLN: glutamine, HIS: histidine, GLY: glycine, THR: threonine, ASN: asparagine, ALA: alanine, TYR: tyrosine, CYS: cysteine, VAL: valine, MET: methionine, TRP: tryptophane, PHE: phenylalanine, ILE: isoleucine, LEU: leucine, LYS: lysine, PRO: proline