

| Species    | H. sapiens (20266 reviewed sequence entries) |                |                 |                |
|------------|----------------------------------------------|----------------|-----------------|----------------|
| Amino acid | Total                                        | Large peptides | Medium peptides | Small peptides |
| A          | 784512                                       | 216736         | 440781          | 126995         |
| C          | 257742                                       | 70271          | 147681          | 39790          |
| D          | 531446                                       | 135568         | 318535          | 77343          |
| E          | 794600                                       | 179775         | 475321          | 139504         |
| F          | 410226                                       | 118637         | 236380          | 55209          |
| G          | 735236                                       | 206054         | 411497          | 117685         |
| H          | 294585                                       | 75736          | 175725          | 43124          |
| I          | 487191                                       | 128624         | 283074          | 75493          |
| K          | 642814                                       | 39460          | 249847          | 353507         |
| L          | 1115918                                      | 299741         | 645622          | 170555         |
| M          | 239119                                       | 61495          | 135125          | 42499          |
| N          | 402925                                       | 102725         | 239231          | 60969          |
| P          | 704406                                       | 234708         | 400973          | 68725          |
| Q          | 534063                                       | 139047         | 313209          | 81807          |
| R          | 631766                                       | 47608          | 254671          | 329487         |
| S          | 929074                                       | 269533         | 524937          | 134604         |
| T          | 595780                                       | 171212         | 340627          | 83941          |
| V          | 669373                                       | 186150         | 386169          | 97054          |
| W          | 136918                                       | 38168          | 80697           | 18053          |
| Y          | 299131                                       | 81991          | 177673          | 39467          |

| Species    | S.pombe (4685 reviewed sequence entries) |                |                 |                |
|------------|------------------------------------------|----------------|-----------------|----------------|
| Amino acid | Total                                    | Large peptides | Medium peptides | Small peptides |
| A          | 137926                                   | 35004          | 79762           | 23160          |
| C          | 32594                                    | 8236           | 19913           | 4445           |
| D          | 118839                                   | 29145          | 73571           | 16123          |
| E          | 144630                                   | 31800          | 89548           | 23282          |
| F          | 101458                                   | 27567          | 60384           | 13507          |
| G          | 109195                                   | 28509          | 63364           | 17322          |
| H          | 50137                                    | 12584          | 30526           | 7027           |
| I          | 135796                                   | 33548          | 81725           | 20523          |
| K          | 142091                                   | 8556           | 57003           | 76532          |
| L          | 218248                                   | 51705          | 131475          | 35068          |
| M          | 45613                                    | 11122          | 26412           | 8079           |
| N          | 115374                                   | 29773          | 69011           | 16590          |
| P          | 104633                                   | 31608          | 62535           | 10490          |
| Q          | 84423                                    | 20447          | 50852           | 13124          |
| R          | 108010                                   | 7190           | 43768           | 57052          |
| S          | 208560                                   | 57193          | 120812          | 30555          |
| T          | 121780                                   | 34624          | 70140           | 17016          |
| V          | 133873                                   | 33671          | 80309           | 19893          |
| W          | 24632                                    | 6559           | 14632           | 3441           |
| Y          | 75539                                    | 20040          | 45703           | 9796           |

Supplementary Table 1: Amino acid composition of peptides generated by *in silico* tryptic digestions of S.pombe and homo sapiens reviewed sequence entries.  
Large peptide:  $M_w \geq 3000$  Da; Medium peptide:  $3000 > M_w > 800$  Da; Small peptide:  $M_w \leq 800$  Da