***Supplementary File 2***

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| --- | --- | --- | --- | --- |
| **UNC-68 (*C. elegans*)** |  |  | **RyR1 (Human)** |  |
| **Number of amino acids** | 5187 |  | 5038 |  |
| **Molecular weight** | 589102.13 |  | 565175.53 |  |
| **Amino acid composition:**  | Number | % | Number | % |
| Ala (A)  | 333 | 6.4 | 384 | 7.6 |
| Arg (R)  | 265 | 5.1 | 294 | 5.8 |
| Asn (N)  | 216 | 4.2 | 170 | 3.4 |
| Asp (D)  | 302 | 5.8 | 253 | 5 |
| Cys (C)  | 90 | 1.7 | 100 | 2 |
| Gln (Q)  | 235 | 4.5 | 205 | 4.1 |
| Glu (E)  | 417 | 8 | 476 | 9.4 |
| Gly (G)  | 305 | 5.9 | 363 | 7.2 |
| His (H)  | 133 | 2.6 | 133 | 2.6 |
| Ile (I)  | 281 | 5.4 | 203 | 4 |
| Leu (L)  | 533 | 10.3 | 558 | 11.1 |
| Lys (K)  | 314 | 6.1 | 228 | 4.5 |
| **Met (M)**  | **179** | **3.5** | **145** | **2.9** |
| Phe (F)  | 251 | 4.8 | 207 | 4.1 |
| Pro (P)  | 194 | 3.7 | 271 | 5.4 |
| **Ser (S)**  | **376** | **7.2** | **296** | **5.9** |
| Thr (T)  | 256 | 4.9 | 231 | 4.6 |
| Trp (W)  | 61 | 1.2 | 63 | 1.3 |
| Tyr (Y)  | 155 | 3 | 141 | 2.8 |
| Val (V) | 291 | 5.6 | 317 | 6.3 |
| Pyl (O)  | 0 | 0 | 0 | 0 |
| Sec (U)  | 0 | 0 | 0 | 0 |