**Supplementary File 1a**

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| --- | --- | --- | --- | --- | --- |
| ***Gene*** | *Primer* | *Nucleotide sequence (5’→3’)* | *GenBank Accession No.* | *Annealing temperature* | *Amplimer size (bp)* |
| ***SEPTIN1******Homo sapiens*** | sense | GGGTTTGACTTCACGCTAATG (101-121) | **NM\_001365977** | 58 °C | 443 |
| antisense | CCAATGACTGGGATGATGTTG (523-543) |  |  |  |
| ***SEPTIN2******Homo sapiens*** | sense | GCGAAGATTCTCATTACC (367–384) | **NM\_001008491** | 52 °C | 476 |
| antisense | TACCACTGTCAGGCGTAG (825–842) |  |  |  |
| ***SEPTIN3******Homo sapiens*** | sense | TGAATGTTTGCGAATGTTG (4315-4333) | **NM\_019106** | 55 °C | 220 |
| antisense | GATTGGCTGGGACTGGTA (4517-4534) |  |  |  |
| ***SEPTIN4******Homo sapiens*** | sense | CCGAAAGTCCGTGAAGAA (698-715) | **NM\_004574** | 55 °C | 221 |
| antisense | TGTCCACAATGGTGAGCC (901-918) |  |  |  |
| ***SEPTIN5******Homo sapiens*** | sense | CTCAACCGAAAGAACATCCAA (513-533) | **NM\_002688** | 55°C | 319 |
| antisense | TGCCTATAACGGCGAAGG (814-831) |  |  |  |
| ***SEPTIN6******Homo sapiens*** | sense | TTCACGCTTAAACAACCA (3403-3420) | [**NM\_**](http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=45383308)**145799** | 52°C | 407 |
| antisense | CCTCGTATCCAGGAATGTA (3791-3809) |  |  |  |
| ***SEPTIN7*** | sense | CTTATTGCCAAAGCAGAC (798-815) | **NM\_001788** | 50°C | 434 |
| ***Homo sapiens*** | antisense | AGAGGGCTCTTAGTCAGC (1214-1231) |  |  |  |
| ***SEPTIN8*** | sense | TGCCTCTACTTCATCACGC (559-577) | **NM\_001098811** | 56 °C | 493 |
| ***Homo sapiens*** | antisense | TGTCACCATCGCTGTCCT (1034-1051) |  |  |  |
| ***SEPTIN9*** | sense | AGGGCACAGATGACCAAAG (3043-3061) | [**NM\_001113495.1**](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&id=164698501) |  56°C | 287 |
| ***Homo sapiens*** | antisense | GGCAAGTCGGCAAAGTAAA (3311-3329) |  |  |  |
| ***SEPTIN10*** | sense | CTGGCAACAGGCAGCAAC (1449-1466) | [**NM\_001321509.2**](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&id=1676441741) |  56°C | 366 |
| ***Homo sapiens*** | antisense | AGCAAAGGTGTCGGGTGG (1797-1814) |  |  |  |
| ***SEPTIN11*** | sense | AGGATGATGGGCTTTCTA (2449-2466) | **NM\_001306147** | 50 °C | 279 |
| ***Homo sapiens*** | antisense | CTTACGGGTCATGTTGTG (2710-2727) |  |  |  |
| ***SEPTIN12*** | sense | ATGTGGTGCCCGTGATTG (513–530) | **NM\_001154458** | 56 °C | 324 |
| ***Homo sapiens*** | antisense | GGAGGTGGGAGCGGATAA (819–836) |  |  |  |
| ***SEPTIN14*** | sense | GAAGAAACTGCTGCTCAA (786-803) | **XM\_011515373** | 50 °C | 488 |
| ***Homo sapiens*** | antisense | TTCCTTATCTCCTCCTGT (1256-1273) |  |  |  |
| ***Septin1*** | sense | CACGGCACAAACTCTGACC (222-240) | **NM\_017461** | 56°C | 500 |
| ***Mus musculus*** | antisense | CAACGACTGCGAAAGGGA (704-721) |  |  |  |
| ***Septin2*** | sense | GAACAGGCGTCACATCA (550-566) | **NM\_001159719** | 50 °C | 352 |
| ***Mus musculus*** | antisense | AACCTTCTTGCCTTTGG (885-901) |  |  |  |
| ***Septin3*** | sense | CCACTGCTGCCTCTACT (776-792) | **NM\_001358836** | 52 °C | 231 |
| ***Mus musculus*** | antisense | TTGTCCTCCAAATCCTC (990-1006) |  |  |  |
| ***Septin4***  | sense | GCAAACCGTGGAGATTA (654-670) | **NM\_011129** | 52 °C | 325 |
| ***Mus musculus*** | antisense | CGCCTTAGCCAAGATAG (962-978) |  |  |  |
| ***Septin5*** | sense | CGCAAGTCCGTCAAGAAA (194-211) | **NM\_213614** | 55 °C | 268 |
| ***Mus musculus*** | antisense | TGGGCTTCCAACATTCAG (444-461) |  |  |  |
| ***Septin6*** | sense | ACATCATTCCCGTTATTGC (820-838) | **NM\_001177324** | 52°C | 221 |
| ***Mus musculus*** | antisense | CATCATCTTGTTGCCTATCTT (1020-1040) |  |  |  |
| ***Septin7*** | sense | CCTTGAGGGCTATGTGGG (278-295) | **NM\_009859** | 56°C | 250 |
| ***Mus musculus*** | antisense | CAGCAGCAACTGAACACCAC (508-527) |  |  |  |
| ***Septin8*** | sense | CACAGAGGAGGTGAAGGT (1000-1017) | **NM\_033144** | 54°C | 471 |
| ***Mus musculus*** | antisense | TTGAAGGCGTTGGTCTC (1454-1470) |  |  |  |
| ***Septin9*** | sense | AACATTGTCCCAGTCATCG (1400-1418) | **NM\_001113486** | 54°C | 381 |
| ***Mus musculus*** | antisense | GCGTTTCACTCGGTAGG (1764-1780) |  |  |  |
| ***Septin10*** | sense | GACACGACCTCCAAGAT (1088-1104) | **NM\_001024910** | 52°C | 349 |
| ***Mus musculus*** | antisense | GACGCTCACCATAGAAC (1420-1436) |  |  |  |
| ***Septin11*** | sense | CCTGTGCGTGGGTGAGA (287-303) | **NM\_001310669** | 55 °C | 433 |
| ***Mus musculus*** | antisense | GATGGTGTCGGCTTTCG (703-719) |  |  |  |
| ***Septin12*** | sense | AGTCCAAAGTATGGCAGTC (344-362) | **NM\_027669** | 52°C | 105 |
| ***Mus musculus*** | antisense | GCTTCAATCCCTTCTCC (432-448) |  |  |  |
| ***Septin14*** | sense | TCCACTCTTGGGCATTT (160-176) | **NM\_028826** | 50 °C | 290 |
| ***Mus musculus*** | antisense | CTGGCTTCCTTGTTTATCT (431-449) |  |  |  |
| ***HSA-MCM*** | sense | GCATGGTGGAGATCTTTGA |  | 58 °C | 717 |
| ***Mus musculus*** | antisense | CGACCGGCAAACGGACAGAAGC |  |  |  |
| ***Septin7*** | sense1 | CTTTGCACATATGACTAAGC |  | 58 °C | 151 WT |
| ***WT-loxP-KD*** | sense2 | GCTTCTTTTATGTAATCCAGG |  |  | 197 Flox |
| ***Mus musculus*** | antisense | GGTATAGGGGACTTTGGGG |  |  | 256 KD |
| ***Gapdh*** | sense | AAGGTCGGAGTCAACGGATTTGG(99-121) | **NM\_001289726.1** | 58 °C | 322 |
| ***Mus musculus*** | antisense | AATGAGCCCCAGCCTTCTCCAT (399-420) |  |  |  |

**Supplementary File 1b**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameters of running** | **BL6****n=3** | **Cre-****n=2** | **Cre+****n=4** |
| **Distance (km/day)** | 2.46±0.19 | 2.34±0.06 | 0.83±0.02\*\*\* |
| **Duration (min/day)** | 343.3±15.2 | 317.1±11.1 | 264.4±4.2\*\*\* |
| **Average speed (m/min)** | 7.27±0.44 | 7.30±0.32 | 4.01±0.13\*\*\* |
| **Maximal speed (m/min)** | 14.04±0.56 | 15.71±0.62 | 10.31±0.20\*\*\* |

\*\*\*p<0.001 from t-test compared to Cre-.

**Supplementary File 1c**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameters of *in vitro* force** | **Control**n=3 | **Cre-**n=7 | **Cre+**n=11 |
| **EDL**n=6 | **soleus**n=6 | **EDL**n=14 | **soleus**n=13 | **EDL**n=21 | **soleus**n=20 |
| **Muscle weight (mg)** | 10.4±0.5 | 12.2±0.4 | 12.8±0.6# | 12.3±0.5 | 10.9±0.2\*\*\* | 13.6±0.5 |
| **CSA (mm2)** | 1.00±0.06 | 0.66±0.05 | 0.76±0.05# | 0.57±0.06 | 0.64±0.04 | 0.68±0.04 |
| **Twitch** |
| **Peak force (mN)** | 2.27±0.08 | 2.42±0.17 | 2.19±0.10 | 2.28±0.12 | 1.85±0.09#,\*\* | 1.63±0.13##,\*\* |
| **Normalized force (mN/mm2)** | 2.30±0.14 | 3.81±0.47 | 3.06±0.26 | 4.54±0.42 | 3.15±0.27 | 2.51±0.23#,\*\*\* |
| **TTP (ms)** | 33.6±0.8 | 95.7±0.9 | 33.0±1.0 | 81.1±2.3### | 35.3±1.2 | 68.7±2.3###,\*\* |
| **HRT (ms)** | 25.9±0.8 | 84.7±5.6 | 26.5±0.7 | 70.8±5.1 | 26.5±0.7 | 58.7±2.7###,\* |
| **Duration (ms)** | 146.2±14.1 | 310.0±12.3 | 153.8±13.0 | 295.6±22.4 | 129.5±6.5 | 278.7±11.9 |
| **Tetanus** |
| **Peak force (mN)** | 11.24±0.39 | 13.09±0.75 | 10.50±0.26 | 11.45±0.30 | 8.76±0.25###,\*\*\* | 8.42±0.45###,\*\*\* |
| **Normalized force (mN/mm2)** | 11.22±0.49 | 20.50±2.48 | 14.30±0.89# | 22.43±2.06 | 14.67±1.00 | 12.76±0.98##,\*\*\* |
| **TTP (ms)** | 165.1±5.1 | 510.1±1.7 | 174.6±8.5 | 513.0±3.0 | 151.6±5.6\* | 492.5±13.8 |
| **HRT (ms)** | 78.3±7.1 | 131.4±3.1 | 74.2±11.0 | 108.3±2.7### | 91.2±5.6 | 101.5±14.2 |
| **Duration (ms)** | 335.6±8.9 | 768.2±11.3 | 331.8±5.9 | 740.4±9.9## | 311.4±5.3#,\* | 691.9±5.9##,\*\*\* |
| **Fatigue at 50th tetanus (%)** | 32.1±1.2 | 23.9±4.6 | 25.8±1.6# | 23.6±1.7 | 33.3±2.1\* | 34.0±1.8#,\*\*\* |

#p<0.05, ##p<0.01, ###p<0.001 from t-test compared to Control.

\*p<0.05, \*\*p<0.01,\*\*\*p<0.001 from t-test compared to Cre-.