**Supplementary Table 1. ECG parameters in BXD strains.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| BXD strains | Fq PAC | Fq PVC | Other | Heart Rate (BPM) | QRS Interval (ms) | QT Interval (ms) |
| 79M | 1.54 | 14.97 |  | 484.49±48.6 | 9.8±1.09 | 50.34±6.14 |
| 73F | 14.57 | 0 |  | 429.83±66.5 | 10.19±1.72 | 38.32±3.22 |
| 83M | 1.85 | 11.53 |  | 473.08±53.55 | 13.48±1.74 | 50±9.72 |
| 78M | 1.13 | 11.99 |  | 471.53±36.96 | 10.2±0.61 | 46.8±6.45 |
| 69F | 2.43 | 9.76 | VT | 515.32±32.94 | 10.8±2.21 | 42.32±9.46 |
| 40M | 8.87 | 0 |  | 512.29±82.43 | 11.35±2.64 | 48.77±6.57 |
| 101F | 7.75 | 0.48 |  | 523.68±23.05 | 9.09±0.48 | 42.73±1.95 |
| 171F | 1.38 | 4.16 |  | 360.45±21.75 | 11.49±0.86 | 35.55±7.21 |
| 51M | 4.91 | 0 |  | 477.67±50.95 | 8.71±0.35 | 47.27±5.21 |
| 101M | 4.8 | 0 |  | 508.69±37.19 | 9.66±0.47 | 45.96±4.14 |
| 68M | 0.54 | 3.92 |  | 536.12±28.05 | 9.05±1.01 | 38.33±5.25 |
| 32F | 4.38 | 0 |  | 464.13±39.05 | 9.02±2 | 33.17±4.97 |
| 86M | 4.29 | 0 |  | 512.95±10.1 | 10.67±1.03 | 29.66±1.88 |
| 69M | 2.52 | 1.59 |  | 502.17±50.98 | 8.68±0.9 | 36.27±8.81 |
| 102F | 3.92 | 0 |  | 529.48±28.42 | 8.69±0.53 | 49.63±4.29 |
| 62M | 0.33 | 3.37 |  | 608.15±11.8  (max.) | 9.88±0.52 | 42.68±1.13 |
| 171M | 3.42 | 0 |  | 405.92±55.5 | 10.01±0.88 | 45.65±7.97 |
| DBA2JM | 0 | 3.17 |  | 483.51±38.97 | 12.17±1.24 | 53.42±1.73 |
| 55M | 1.4 | 1.4 |  | 428.77±6.5 | 10.48±0.36 | 29.76±2.36 |
| 169M | 2.63 | 0 |  | 421.16±25.88 | 9.62±1.02 | 37.15±3.24 |
| 89F | 2.46 | 0 |  | 467.56±56.42 | 8.89±1.26 | 36.07±7.1 |
| 71F | 2.4 | 0 |  | 515.11±45.75 | 10.71±0.96 | 41.98±5.67 |
| 170M | 2.23 | 0 |  | 538.75±45.6 | 10.84±0.44 | 27.58±1.25  (min.) |
| 15M | 2.2 | 0 |  | 437.87±42.63 | 9.42±0.44 | 48.57±8.21 |
| 65bF | 0 | 1.53 | VT | 495.91±120.89 | 10.87±2.57 | 51±16.02 |
| 70M | 1.93 | 0 |  | 480.21±81.9 | 10.58±0.86 | 35.75±10.32 |
| 24M | 1.85 | 0 |  | 454.16±32.01 | 11.47±0.04 | 40.76±1.78 |
| 51F | 1.85 | 0 |  | 504.57±32.98 | 8.54±0.22 | 43.54±9.58 |
| 84F | 1.53 | 0 |  | 421.17±87.11 | 9.55±0.67 | 34.76±5.11 |
| 34F | 1.41 | 0 |  | 480.39±15.3 | 8.89±0.69 | 40.64±5.97 |
| 113F | 1.39 | 0 |  | 546.89±20.17 | 11.03±1.08 | 47.31±9.64 |
| 77M | 1.39 | 0 |  | 468.85±66.05 | 9.08±1.1 | 46.62±9.71 |
| 89M | 1.29 | 0 |  | 456.76±50.65 | 8.85±0.54 | 36.49±6.54 |
| 73M | 1.25 | 0 |  | 492.59±32.17 | 10.82±1.37 | 36.52±0.7 |
| 44F | 1.22 | 0 |  | 493.16±22.7 | 9.73±1.51 | 47.17±5.23 |
| 60F | 0 | 1.22 |  | 490.68±38.52 | 11.9±2.07 | 41.28±8.42 |
| 84M | 1.19 | 0 |  | 519.36±22.22 | 10.11±0.65 | 37.22±6.97 |
| 155M | 1.19 | 0 |  | 509.64±5.71 | 9.49±0.4 | 41.67±5.26 |
| 29M | 1.15 | 0 |  | 460.85±70.41 | 10.63±2 | 40.67±5.41 |
| 48M | 0 | 0.65 | II AVB | 549.32±56.79 | 10.32±0.87 | 37.69±5.42 |
| 78F | 1.08 | 0 |  | 455.37±61.87 | 10.81±1.2 | 40.03±5.24 |
| 55F | 0.95 | 0 |  | 420.87±21 | 10.22±0.52 | 41.45±6.36 |
| 16M | 0.89 | 0 |  | 538.45±44.68 | 8±1.57  (min.) | 39.49±10.31 |
| 66F | 0 | 0 | SSS | 431.32±17.11 | 11.44±1.26 | 41.89±2.01 |
| 75F | 0 | 0.82 |  | 470.69±46.87 | 11.41±2.58 | 35.45±5.82 |
| 34M | 0.8 | 0 |  | 508.87±15.03 | 9.52±1.07 | 39.68±7.25 |
| 102M | 0.78 | 0 |  | 463.32±88.75 | 10.57±2.49 | 51.73±14.79 |
| 49F | 0.73 | 0 |  | 544.89±61.29 | 11.08±2.59 | 41.04±3.64 |
| 48F | 0.38 | 0.35 |  | 544.23±33.35 | 10.81±0.77 | 39.66±4.21 |
| 61M | 0.34 | 0.34 |  | 565.89±45.61 | 10.19±1 | 39.19±3.63 |
| C57B6M | 0 | 0.55 |  | 536.66±41.69 | 10.89±0.41 | 41.79±1.91 |
| 9M | 0.47 | 0 |  | 531.82±36.47 | 10.12±0.6 | 38.04±8.08 |
| 29F | 0.45 | 0 |  | 466.85±60.84 | 10.18±0.81 | 38.93±7.04 |
| 168M | 0.41 | 0 |  | 483.84±23.65 | 11.22±1.06 | 48.01±8.45 |
| 40F | 0 | 0.39 |  | 502.5±56.88 | 10.11±1.46 | 47.82±5.08 |
| 62F | 0.35 | 0 |  | 572.15±32.1 | 9.88±0.72 | 43.01±2.02 |
| 172M | 0 | 0 |  | 574.22±14.84 | 12.79±1.2 | 48.61±3.8 |
| 65F | 0 | 0 |  | 543.94±71.54 | 14.27±2.97  (max.) | 49.32±2.51 |
| C57B6F | 0 | 0 |  | 547.61±61.38 | 11.67±1.03 | 43.4±2.88 |
| DBA2JF | 0 | 0 |  | 353.19±5.67  (min.) | 13.5±4.25 | 62.82±9.42  (max.) |

**Comment:** The data aresorted by the ECG parameters and arrhythmia incidence. The first column represents different BXD strains (F, female; M, male). The frequency (Fq) of arrhythmias was calculated in percentile (‰) by dividing the number of abnormal heartbeats recorded in 5-minute ECG tracings by the total number of heartbeats and then multiplying by 1000. ECG parameters are shown as mean±SD. Abbreviations: atrioventricular block 2 (II AVB), premature atrial contraction/complex (PAC), premature ventricular contraction (PVC), ventricular tachycardia (VT), sick sinus syndrome (SSS), beats per minute (BPM), millisecond (ms), maximum (max), minimum (min).