|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **WT C57Bl/6** | ***Trpv4-/-*** | **WT C57Bl/6** | | ***Trpv4-/-*** |
|  |  |  | **Scrambled miRNA** | ***Piezo1*-targeting miRNA** | ***Piezo1*-targeting miRNA** |
| Number of litters | 5 | 4 | 2 | 3 | 3 |
| Cells | 27 | 13 | 22 | 12 | 11 |
| Responding cells | 24 | 6 | 19 | 6 | 2 |
| Stimulation points | 32 | 19 | 28 | 18 | 17 |
| Measurements | 399 | 175 | 352 | 208 | 227 |
| No. of currents | 99 | 12 | 64 | 15 | 5 |
| Latency (ms) mean (± s.e.m.)  Median | 3.6 ± 0.3  2.6 | 7.8 ± 1.6  8.3 | 4.3 ± 0.7  3.9 | 8.11 ± 1.9  4.6 | 6.7 ± 2.3  4.6 |
| τ1 (ms) mean (± s.e.m.)  Median | 1.7 ± 0.3  0.7 | 0.32 ± 0.06  0.26 | 1.3 ± 0.2  0.75 | 1.1 ± 0.3  0.9 | 1.3 ± 0.5  0.7 |
| τ2 (ms) mean (± s.e.m.)  Median | 47.7 ± 8.6  16.7 | 45.1 ± 24.7  17.7 | 67.8 ± 13.5  22.4 | 26.3 ± 16.6  2.2 | 9.3 ± 4.2  5.8 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Stimulus-response curves: Statistics** | | | | | | | |
|  | 0-10 | 10-50 | 50-100 | 100-250 | 250-500 | 500-1000 | Ordinary Two-way ANOVA |
| **WT-scrambled miRNA vs *Piezo1* miRNA (B57Bl/6)** | | | | | | |  |
| Chondrocytes vs chondrocytes | NA | NS  (21,11) | NS  (21,11) | NS  (22,11) | NS  (14,10) | NS  (7,7) | NS |
| **WT vs *Trpv4-/-* (C57Bl/6)** | | | | | | |  |
| Chondrocytes vs chondrocytes | NA | NS  (20,11) | NS  (21,10) | NS  (25,12) | NS  (22,11) | NS  (16,6) | \* *P*=0.04  F (1, 148) = 4.035 |
| **WT-scrambled miRNA vs *Trpv4-/-*-*Piezo1* miRNA** | | | | | | |  |
| Chondrocytes vs chondrocytes | NA | NS  (21,10) | NA  (21,10) | NS  (22,10) | NA  (14,8) | NA  (7,7) | \* *P*=0.04  F (1, 128) =  3.984 |

Source Data Figure 4