**Table S1: Comparison of rates of activation at room temperature and 37°C.**

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| --- | --- | --- | --- |
| **τact,0 mV (ms)** | **Kv11.1-1A** | **Kv11.1-3.1** | **Kv11.1-1A / Kv11.1-3.1** |
| **Room temp** | 453 ± 17.01 | 303 ±17.02 | 354 ± 54.03,4 |
| **37°C** | 57.9 ± 5.1 | 56.7 ± 4.95 | n/a |

1 P = 0.0079, F = 6.52, one way ANOVA;

2 p = 0.0043, paired t test (Kv11.1-1A and Kv11.1-3.1);

3 p = 0.10, paired t test (Kv11.1-1A and Kv11.1-1A / Kv11.1-3.1);

4 p = 0.13, paired t test (Kv11.1-3.1 and Kv11.1-1A / Kv11.1-3.1);

5 p = 0.41, paired t test (Kv11.1-1A and Kv11.1-3.1)