**Figure 7- source data 1:**  **Comparison of cerebral KV current properties.**

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| --- | --- | --- | --- | --- |
| **Cerebral myocytes** | **V ½ (mV)** | **Slope k (mV)** | **act (-80 to +40mV, ms)** | **deact (+40 to -40mV, ms)** |
| *TgNotch3R169C; Timp3+/+* | 3.80 ± 0.80 | 16.97 ±0.81 | 38.96 ±3.08 | 28.03 ±2.68 |
| *TgNotch3R169C; Timp3+/-* | 3.38 ±0.97 | 14.09 ±0.93 | 36.84 ±5.47 | 28.07 ±2.36 |
| *TgNotch3R169*C/sADAM17 | 7.63 ±1.15 | 16.46 ±1.12 | 36.86 ±3.36 | 27.76 ±3.11 |
| *WT* | 6.28 ±0.92 | 13.92 ±0.87 | 41.38 ±2.42 | 32.85 ±3.08 |
| *WT*/TIMP3 | 4.28 ±1.56 | 15.13 ±1.52 | 42.08 ±2.46 | 34.17 ±4.19 |

Half-maximal activation (V1/2) voltage, slope (k), activation time constant (act), and deactivation time constant (deac) were used as channel fingerprints to compare KV current properties in the different conductions. The similarity in the measured parameters points to a modulation of the number of channel rather than changes in gating properties or subtypes expression. Comparison of kinetic and activation properties suggests a predominant role of Kv 1.5 subtype in the recorded currents (Dabertrand et al., 2015).