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## **Supplementary information**

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# **Parallel ascending spinal pathways for affective touch and pain**

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In the format provided by the  
authors and unedited

| <b>Figure and panel</b> | <b>Comparison</b>              | <b><i>p</i>-value</b> |
|-------------------------|--------------------------------|-----------------------|
| Figure 2g               | CL (control vs Tacr1)          | 0.0042                |
| Figure 2g               | IL (control vs Tacr1)          | 0.0077                |
| Figure 2g               | IL (control vs Gpr83)          | 0.0349                |
| Figure 2g               | DL (control vs Gpr83)          | 0.004                 |
| Figure 2g               | EL (control vs Tacr1)          | 1.46E-05              |
| Figure 2g               | EL (control vs Gpr83)          | 4.13E-05              |
| Figure 2i               | 5 Hz (control vs Tacr1)        | 0.0002                |
| Figure 2i               | 5 Hz (control vs Gpr83)        | 5.42E-05              |
| Figure 2i               | 10 Hz (control vs Tacr1)       | 2.76E-06              |
| Figure 2i               | 10 Hz (control vs Gpr83)       | 6.36E-06              |
| Figure 2j               | 10 Hz (control vs Tacr1)       | 0.0046                |
| Figure 2k               | Saline vs NBQX                 | 0.0039                |
| Figure 2l               | Saline vs NBQX                 | 0.0305                |
| Figure 2n               | control vs Gpr83               | 0.0002                |
| Figure 2n               | control vs Tacr1               | 4.62E-06              |
| Figure 2o               | control vs Tacr1               | 3.27E-05              |
| Figure 2o               | Gpr83 vs Tacr1                 | 0.0053                |
| Figure 2p               | control vs Tacr1               | 0.0075                |
| Figure 2p               | Gpr83 vs Tacr1                 | 0.0222                |
| Figure 3e               | 0.16 g (Gpr83 vs Tacr1)        | 0.0096                |
| Figure 3e               | 1 g (Gpr83 vs Tacr1)           | 0.0028                |
| Figure 3e               | 2 g (Gpr83 vs Tacr1)           | 0.001                 |
| Figure 3e               | 4 g (Gpr83 vs Tacr1)           | 0.0041                |
| Figure 3e               | Two-way ANOVA (Gpr83 vs Tacr1) | 0.004                 |
| Figure 3f               | 15 °C (Gpr83 vs Tacr1)         | 0.0248                |
| Figure 3f               | 40 °C (Gpr83 vs Tacr1)         | 0.004                 |
| Figure 3f               | Two-way ANOVA (Gpr83 vs Tacr1) | 0.0403                |
| Figure 3k               | Gpr83 vs Tacr1                 | 0.0031                |
| Figure 3m               | Gpr83 vs Tacr1                 | 0.0003                |
| Figure 3o               | Gpr83 vs Tacr1                 | 0.0069                |
| Figure 5b               | Tacr1 (Prestim vs Stim)        | 0.0011                |
| Figure 5b               | Tacr1 (Prestim vs Poststim)    | 0.0249                |
| Figure 5b               | Gpr83 (Prestim vs Stim)        | 0.0015                |
| Figure 5c               | Tacr1 (Prestim vs Stim)        | 0.0193                |
| Figure 5c               | Gpr83 (Prestim vs Poststim)    | 0.0169                |
| Figure 5e               | 0.4 mW (control vs Gpr83)      | 0.0407                |
| Figure 5e               | 1 mW (control vs Gpr83)        | 0.0413                |
| Figure 5f               | 0.4 mW (control vs Tacr1)      | 0.1396                |

|                         |                                     |          |
|-------------------------|-------------------------------------|----------|
| Figure 5f               | 1 mW (control vs Tacr1)             | 0.0087   |
| Figure 5h               | IL (control vs 6.5 mW)              | 0.014    |
| Figure 5h               | IL (0.4 mW vs 6.5 mW)               | 0.0482   |
| Figure 5h               | DL (control vs 6.5 mW)              | 0.0007   |
| Figure 5h               | DL (0.4 mW vs 6.5 mW)               | 0.0016   |
| Figure 5h               | EL (control vs 0.4 mW)              | 0.0044   |
| Figure 5h               | EL (control vs 6.5 mW)              | 8.77E-06 |
| Figure 5h               | EL (0.4 mW vs 6.5 mW)               | 0.0003   |
| Figure 5i               | control vs 0.4 mW                   | 0.0002   |
| Figure 5i               | control vs 6.5 mW                   | 5.30E-06 |
| Figure 5i               | 0.4 mW vs 6.5 mW                    | 0.0016   |
| Extended Data Figure 4b | Gpr83 vs Tacr1                      | 0.0007   |
| Extended Data Figure 4c | 2 Hz (control vs Tacr1)             | 0.0146   |
| Extended Data Figure 4c | 2 Hz (control vs Gpr83)             | 0.0009   |
| Extended Data Figure 4c | 5 Hz (control vs Tacr1)             | 2.11E-06 |
| Extended Data Figure 4c | 5 Hz (control vs Gpr83)             | 2.97E-06 |
| Extended Data Figure 4c | 10 Hz (control vs Tacr1)            | 0.0001   |
| Extended Data Figure 4c | 10 Hz (control vs Gpr83)            | 0.0001   |
| Extended Data Figure 4e | Tacr1 (Baseline vs Light-on)        | 0.0335   |
| Extended Data Figure 4f | Gpr83 (Baseline vs Light-on)        | 0.0193   |
| Extended Data Figure 5a | Mechanical stimuli vs 15 °C         | 0.0001   |
| Extended Data Figure 5a | Mechanical stimuli vs 40 °C         | 7.04E-05 |
| Extended Data Figure 5a | Mechanical stimuli vs 0 °C          | 0.0395   |
| Extended Data Figure 5a | innocuous temperature vs 0 °C       | 0.0943   |
| Extended Data Figure 5a | innocuous temperature vs 55 °C      | 0.003    |
| Extended Data Figure 5a | Temperature stimuli vs 2 g          | 0.0735   |
| Extended Data Figure 5a | Temperature stimuli vs 4 g          | 0.0417   |
| Extended Data Figure 5d | Gpr83 vs Tacr1                      | 0.0853   |
| Extended Data Figure 6a | control vs Tacr1/Gpr83-TeTx         | 0.0278   |
| Extended Data Figure 6b | control vs Tacr1/Gpr83-TeTx         | 0.0362   |
| Extended Data Figure 6c | control vs Tacr1/Gpr83-TeTx         | 0.0053   |
| Extended Data Figure 6d | control vs Tacr1/Gpr83-TeTx         | 0.0037   |
| Extended Data Figure 6f | Control (RT vs 5 °C)                | 0.009    |
| Extended Data Figure 6f | 5 °C (control vs Tacr1/Gpr83-TeTx)  | 0.0205   |
| Extended Data Figure 6f | Control (RT vs 55 °C)               | 0.0002   |
| Extended Data Figure 6f | 55 °C (control vs Tacr1/Gpr83-TeTx) | 0.0095   |
| Extended Data Figure 7j | Gpr83 vs Tacr1                      | 3.70E-08 |
| Extended Data Figure 7k | Gpr83 vs Tacr1                      | 5.09E-07 |
| Extended Data Figure 9b | 1 mW (control vs Tacr1)             | 0.0041   |

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|-------------------------|----------------------------|--------|
| Extended Data Figure 9b | 6.5 mW (control vs Tacr1)  | 0.0069 |
| Extended Data Figure 9b | 6.5 mW (control vs Gpr83)  | 0.0143 |
| Extended Data Figure 9d | Rostral vs Caudal grooming | 0.0008 |
| Extended Data Figure 9e | Active vs Inactive lever   | 0.0285 |
| Extended Data Figure 9f | Active vs Inactive lever   | 0.0219 |