The Brainstem Potassium Inward Rectifier Channel Integrates the Chemosensory System with REM Sleep Executive Machinery for Homeostatic Balance

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Supplementary Results:

Effects of barium chloride microinjections outside the LC on sleep-wake architecture.

Out of the nine animals, the injection sites of $BaCl_2$ were within the LC for most, but in two animals, the injections were outside the LC. In these two cases, the amounts of [A] wakefulness, [B] NREM sleep, and [C] REM sleep across the baseline, vehicle, and low and high doses of $BaCl_2$ were comparable, with no statistically significant changes observed. These findings suggest that the alterations in sleep-wake architecture are likely due to the blockage of Kir channels within the LC rather than outside.

Similarly, out of the eight animals studied, the injection sites of $BaCl_2$ were within the RTN for most, but in two animals, the injections were outside the RTN. In these two cases, the amounts of wakefulness, NREM sleep, and REM sleep across the baseline, vehicle, and low and high doses of $BaCl_2$ were comparable, with no statistically significant changes observed. These findings suggest that the alterations in sleep-wake architecture are likely due to the blockage of Kir channels within the RTN rather than outside of it.

Supplementary Figure Legends:

Supplementary Figure 1: The sites of microinjections of barium chloride in two animals were located outside the LC. In these two animals, the amount of [A] wakefulness, [B] NREM sleep, and [C] REM sleep in the baseline, vehicle, and low and high doses of barium chloride microinjected groups were comparable.

Supplementary Figure 2: The sites of microinjections of barium chloride in two animals were located outside the RTN. In these two animals, the amount of [A] wakefulness, [B] NREM sleep, and [C] REM sleep in the baseline, vehicle, and low and high doses of barium chloride microinjected groups were comparable.