## **Supplementary Information**

**Fig. S1.**Burst amplitude returns to near-baseline levels in 6/7 preparations following washout of lactate. (A) In the

6 preparations that returned to near-control burst amplitude, recovery time ranged from 0.8-3.5 hrs. (B) The Frequency of respiratory motor output was not significantly affected by lactate (p=0.1556, paired t test).

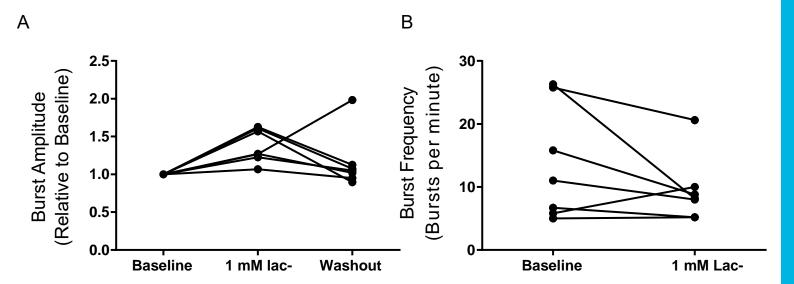


Fig. S2.

Lactate does not affect firing responses and membrane properties of hypoglossal motor neurons. (A) shows firing rates at baseline and then after 25 minutes of whole-cell patch clamp recording in response to step increases in current. (B) shows firing rates before and after exposure to 2 mM lactate. (C-E) show that membrane potential, input resistance, and series resistance does not differ between time control neurons and those exposed lactate for 25 minutes.

