Supplementary Material

Figure S1: Comparison of surface characteristics of nodose slice preparations with or without enzyme treatment. **A**.: nodose slice without treatment after slicing; **B**.: nodose slice with proper enzyme treatment.

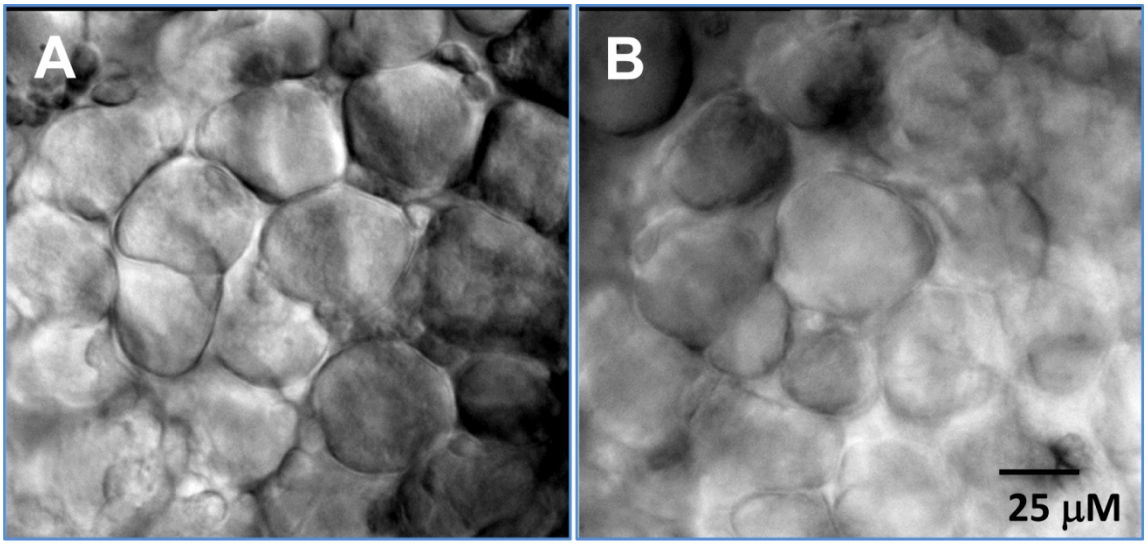

Figure S2: Myelinated Ah-type nodose neurons express a TTX-resistant, voltage-activated fast Na^+ current. Data presented were recorded in a sliced nodose ganglion preparation from an adult female rat. This neuron is identified as a myelinated Ah-type nodose neuron with fast afferent fiber conduction (21.14 m/sec) and TTX-R Na^+ channel expression. There is a clear advantage of nodose slice preparation of knowing the fiber type of neurons even though voltage-clamp configuration is employed, however, the disadvantage is also observed with less quality of resolution. **A**: Electrical signal recorded in the cell-attached configuration from the soma of a nodose ganglion neuron during electrical stimulation of the vagus nerve (stimulus artifact is marked by a filled triangle). The pipette was filled with intracellular solution designed for Na^+ current recording and the preparation was bathed in extracellular solution designed for AP recording. Measurements yielded a CV of 21.14 m/sec, suggesting that the recording was obtained from a myelinated neuron/fiber (the time it took the stimulated action potential to propagate along the 21.43 mm distance between the stimulating and recording electrode was 1.013 ms); blue circle indicates the spike reflecting the repolarization hump. **B**: Family of whole-cell Na^+ current recordings obtained from the neuron in (**A**) in the presence of 1.0 μM TTX. After establishing the whole-cell configuration and exchange of the extracellular solution with Na^+ current solution, 60-ms square wave voltage pulses to potentials ranging from -70 to +30 mV (step size, 5 mV) were applied from a holding potential of -80 mV, revealing rapidly activating and inactivating inward currents, typically for voltage-gated Na^+ currents. The delayed activation of the inward current in response to depolarization to -30 mV may reflect superimposition of a distinctly different inward current. **C**: Peak current-voltage (I-V) relationship of the cell in (**B**). The small hump at a test potential of -30 mV (red arrow) may reflect the activity of a second current that is different from the TTX-R Na^+ current.

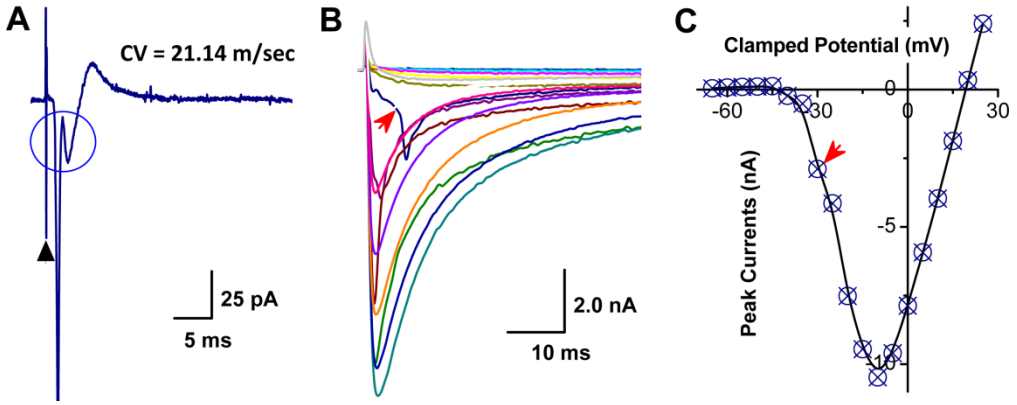

Figure S3: Electron microscopy images of aortic depressive nerve. The truncated segments of aortic depressive nerves (ADN) from a 50-day-old female (**A**) and male (**B**) rat were cross-sectioned, stained, subjected to electron microscopy, and digitally processed. The methodology was described in details in our previous work. The data clearly shows that the myelin fibers are much less developed in the female rat compared with the male rat. Scale bar = 2.0 microns.