

Online Supplementary Material

The online supplementary material shows two movies of the Ca^{2+} events in middle cerebral arteries mounted in a wire myograph. Under control conditions (**Movie 1**) spontaneous, asynchronous propagating Ca^{2+} waves can be observed in the individual smooth muscle cells. After the addition of L-NAME, the artery contracted and developed vasomotion. Under these conditions, the synchronous Ca^{2+} oscillations were observed (**Movie 2**). See Figure 1 for traces of tension and $[\text{Ca}^{2+}]_{\text{SMC}}$.