

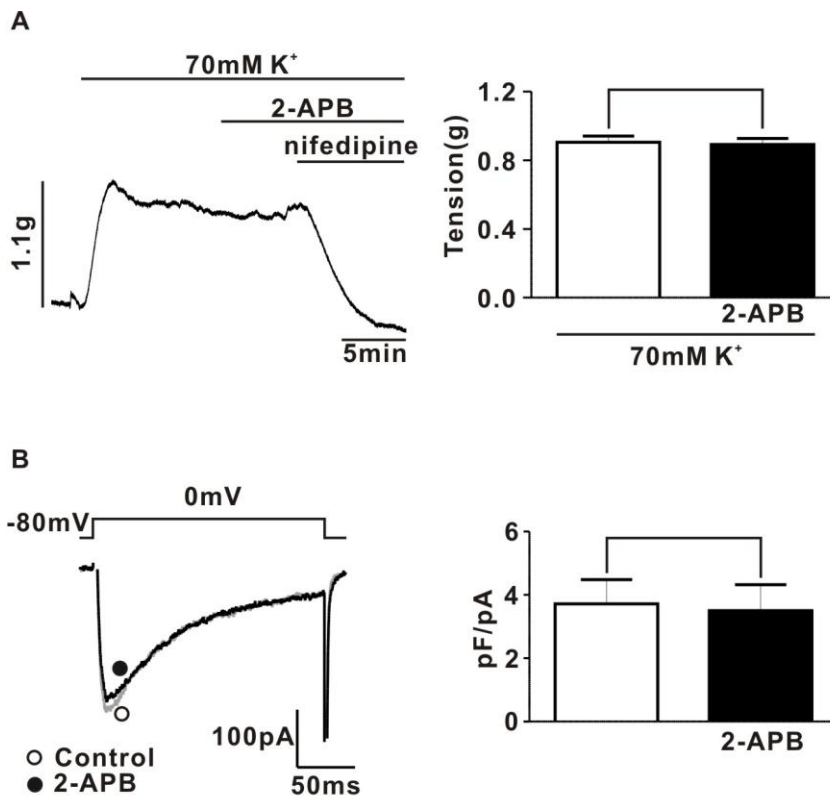
## Method

### - Electrophysiology

Voltage-gated  $\text{Ca}^{2+}$  currents ( $I_{\text{Ca}}$ ) were recorded using conventional whole-cell techniques. Electrode resistances varied from 3–5  $\text{M}\Omega$  when filled with internal solution. Measurements were performed using an Axopatch 200 A patch-clamp amplifier (Molecular Devices, Sunnyvale, CA). Voltage and current commands and the digitization of membrane voltages and currents were controlled using a Digidata 1322A interfaced with Clampex 10.2 of the pClamp software package (Molecular Devices, Sunnyvale, CA), on an IBM-compatible computer. Data was analyzed using Clampfit (Molecular Devices, Sunnyvale, CA) and Prism 5.0 (GraphPad, San Diego, CA). The cells were moved from the incubator to a recording chamber, visualized using an inverted microscope, and subjected to voltage clamp experiments using the whole cell technique. Currents were low-pass filtered at 2 kHz using the four-pole Bessel filter of the amplifier. Capacitance ( $C_m$ ) values were automatically calculated during recordings by the pClamp 10.2 software. Multiple independently controlled syringes served as reservoirs for a gravity-driven fast drug perfusion system. Switching between solutions was accomplished by manually controlled valves. All experiments were conducted at room temperature.

### - Solutions and drugs

The internal (pipette) solution contained the following (in mM): 140  $\text{CsCl}_2$ , 1.2  $\text{MgCl}_2$ , 4  $\text{MgATP}$ , 0.4  $\text{Na}_2\text{GTP}$ , 10 phosphocreatine, 10 HEPES, and 10 EGTA; the solution was adjusted to pH 7.2 with  $\text{CsOH}$ . The external (bath) solution contained (in mM) 155 tetraethylammonium (TEA)-Cl, 2.5  $\text{CaCl}_2$ , 1.2  $\text{MgCl}_2$ , 14 glucose, and 10.5 HEPES; the solution was adjusted to pH 7.4 with TEA-OH.



### Supplementary Fig. 1

#### Figure S1. Effect of 2-APB on myometrial contraction evoked by high K-solution and voltage-dependent Ca<sup>2+</sup> current in pregnant rat myometrium.

(A) Left: a representative trace of 2-APB (10 μM) effect on myometrial contraction evoked by high-K (70 mM) solution. The high K-evoked contraction was completely abolished by 10 μM nifedipine. Right: summary of 2-APB effect on the high K-evoked contraction. (B) Left: a representative trace of 2-APB (10 mM) effect on voltage-dependent Ca<sup>2+</sup> current in pregnant rat myocyte. Right: summary of 2-APB effect on voltage-dependent Ca<sup>2+</sup> current.