

Up-regulation of vascular endothelial growth factor receptor-1 contributes to sevoflurane preconditioning mediated cardioprotection

Yusheng Yao

Abstract

Male adult Sprague–Dawley rats, weighing 270–300 g, obtained from the Animal Center of the Fujian Medical University, were anesthetized with intraperitoneal sodium pentobarbital (50 mg/kg). After intravenous injection of heparinized (50 IU) the hearts were quickly excised and fixed on a Langendorff apparatus (Radnoti, Monrovia, CA, USA) and perfused with 37°C Krebs–Henseleit buffer (KHB) at constant pressure (75 mmHg). After equilibrated with KHB for 15 min, isolated hearts were randomly divided into five groups: 1. Sham group: hearts subjected to 195-min perfusion without I/R injury; 2. I/R group: hearts received 30-min ischemia followed by 120-min reperfusion; 3. SPC group: 2.5% sevoflurane preconditioning was given for 15 min followed by 15-min washout before ischemia; 4. SPC+MF1 group: combined application of MF1(ImClone, Somerville, NJ, USA), rat anti-VEGFR-1 monoclonal antibody, 10 µmol/L and 2.5% sevoflurane preconditioning for 15 min followed by 15-min washout before ischemia; 5. SPC+PIGF group: combined application of PIGF(Abcom, Cambridge, United Kingdom) 10 µmol/L and 2.5% sevoflurane preconditioning for 15 min followed by 15-min washout before ischemia. To implement sevoflurane preconditioning, the KHB was pre-equilibrated with sevoflurane under a separate reservoir with a Vapor 2000 (Dräger Medical AG & Co., Lübeck, Germany) using an air bubbler.

Citation: Yusheng Yao Up-regulation of vascular endothelial growth factor receptor-1 contributes to sevoflurane preconditioning mediated cardioprotection. **protocols.io**

dx.doi.org/10.17504/protocols.io.mmrc456

Published: 15 Jan 2018

Protocol