Cannulation of the heart

30 min stabilization

Registration of data begins

Protocol A (Figures 1,2 and 3)

Infusion of S1P or vehicle

Washout

Decannulation

- WT + S1P
- S1P$_3$-KO + S1P

S1P or vehicle infusion (5 min)

Washout (20 min)

Coronary Flow (ml/min)

Time (min)

Protocol B (Figures 4 and 5)

Infusion of S1P or vehicle

Ischaemia

Reperfusion

Decannulation

- WT + vehiculum
- S1P$_3$-KO + vehiculum

S1P or vehicle infusion (5 min)

Global ischemia (20 min)

Reperfusion (120 min)

Control

Time (min)

Measurement of infarct size

Statistical analysis

Suppl. Figure 1. Experimental protocols of isolated heart experiments. After cannulation, a 30-min stabilization period was allowed. Subsequently, baseline data were recorded and S1P or vehicle was infused to the perfusion line for 5 min. Afterwards, depending on the experiment, either a 20-min washout period (Protocol A) or a 20-min global ischemia caused by complete cessation of perfusion was applied. At the end of the ischemic period, perfusion was re-introduced and reperfusion was followed up for 2 h (Protocol B).
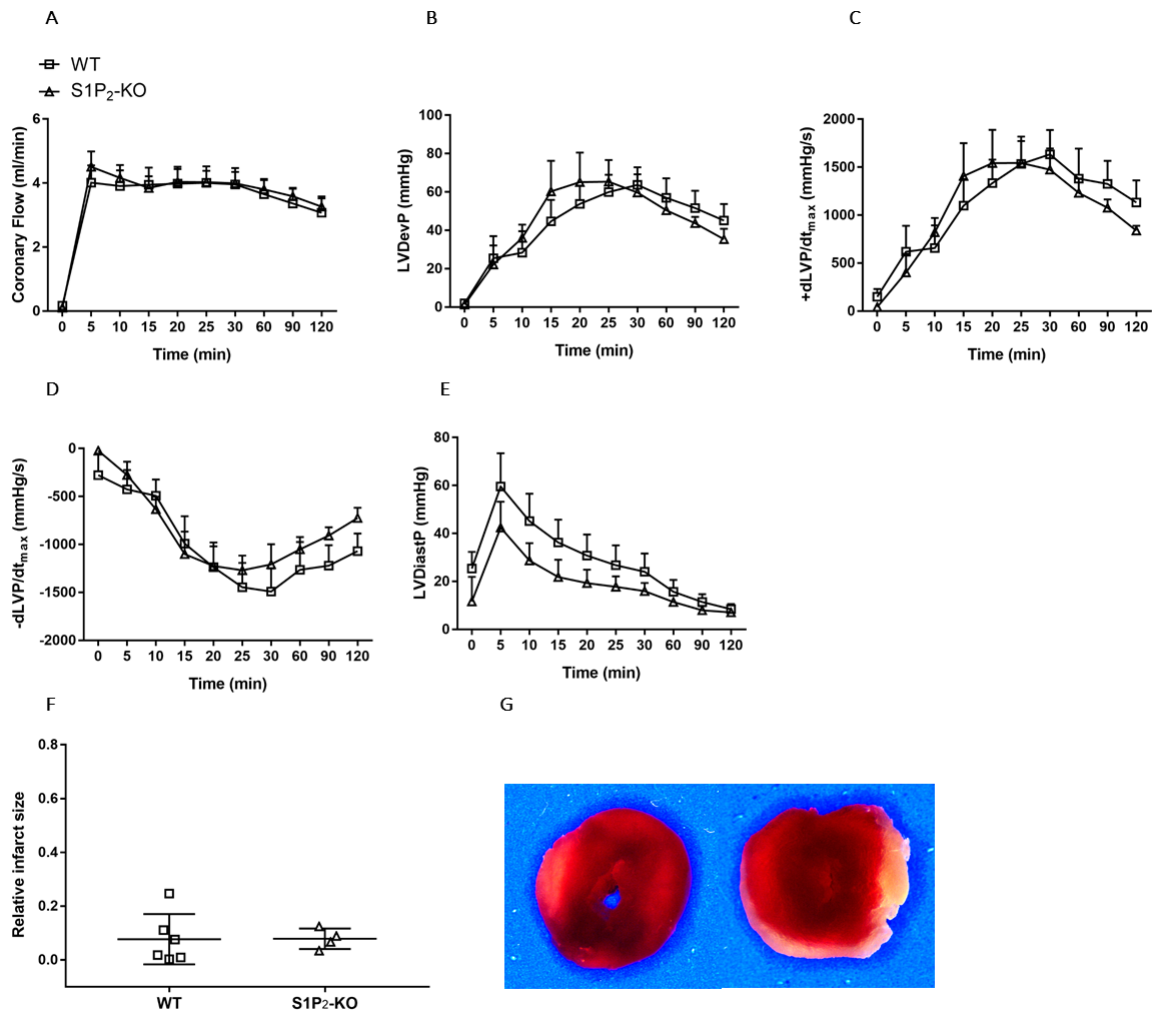
Suppl. Figure 2. Postischemic coronary flow (CF) (A), left ventricular developed pressure (LVDevP) (B), +dLVP/dtmax (C), -dLVP/dtmax (D) and left ventricular diastolic pressure (LVDiastP) (E) in isolated WT and S1P$_2$ knock-out (KO) mouse hearts. Vehicle was administered for 5 min to the perfusate before the induction of a 20-min ischemia followed by a 120-min reperfusion period. Relative infarct size (F) and representative sections (G) from hearts subjected to ischemia/reperfusion. Mean ± SEM; n=6, 4; statistics: two-way repeated measurement ANOVA and Dunnett's *post hoc* test (A-E) and unpaired *t*-test (F).