Supplementary Figure 1 Expression of hypertrophic fetal genes in control and hypertrophy heart tissues of humans. RT-qPCR analysis of the expression of hypertrophic genes (ANP, BNP, and MYH7) in the control and hypertrophic hearts of humans. n=5 in each group. **p<0.01 by Student’s t test. ANP, atrial natriuretic peptide; BNP, brain natriuretic peptide; MYH7, β-myosin heavy chain.

Supplementary Figure 2 Validation of hypertrophic growth of mouse hearts and rat cardiomyocytes. (A)Fraction shortening, ejection fraction, left wall thickness, and left ventricular internal diameters of mice with/without cardiac hypertrophy. Cardiac hypertrophy was induced by subcutaneously chronic infusion of Ang II (1.3 mg/kg/day) for 28 days. Ang II, angiotensin II. n=5 in each group. **p<0.01, ***p<0.001 by Student’s t test. (B)Heart weight-to-body weight ratio of mice with/without cardiac hypertrophy. Cardiac hypertrophy was induced by subcutaneously chronic infusion of Ang II (1.3 mg/kg/day) for 28 days. n=5 in each group. ***p<0.001 by Student’s t test. (C)Haematoxylin and eosin (H&E) staining show the increased
cardiomyocyte size in mice with cardiac hypertrophy. Cardiac hypertrophy was induced by subcutaneously chronic infusion of Ang II (1.3 mg/kg/day) for 28 days. Then the heart tissues were harvested and subjected to H&E staining. n=5 in each group. ***p<0.001 by Student’s t test. (D) qRT-PCR shows the expression of hypertrophic genes (Anp, Bnp, Myh7) in control and hypertrophic neonatal rat cardiomyocytes (NRCMs). Cardiomyocytes were treated with Ang II (1 μM) for 48 hours to induce cardiomyocyte hypertrophy. n=3 in each group. **p<0.01 by Student’s t test.

Supplementary Figure 3. Inhibitors effects on PI3K pathway.
Cardiomyocyte cells were with/without PI3K inhibitor pictilisib (100 nM; Panel C) for additional 48 hours. Then, western blot was performed to test the effects.