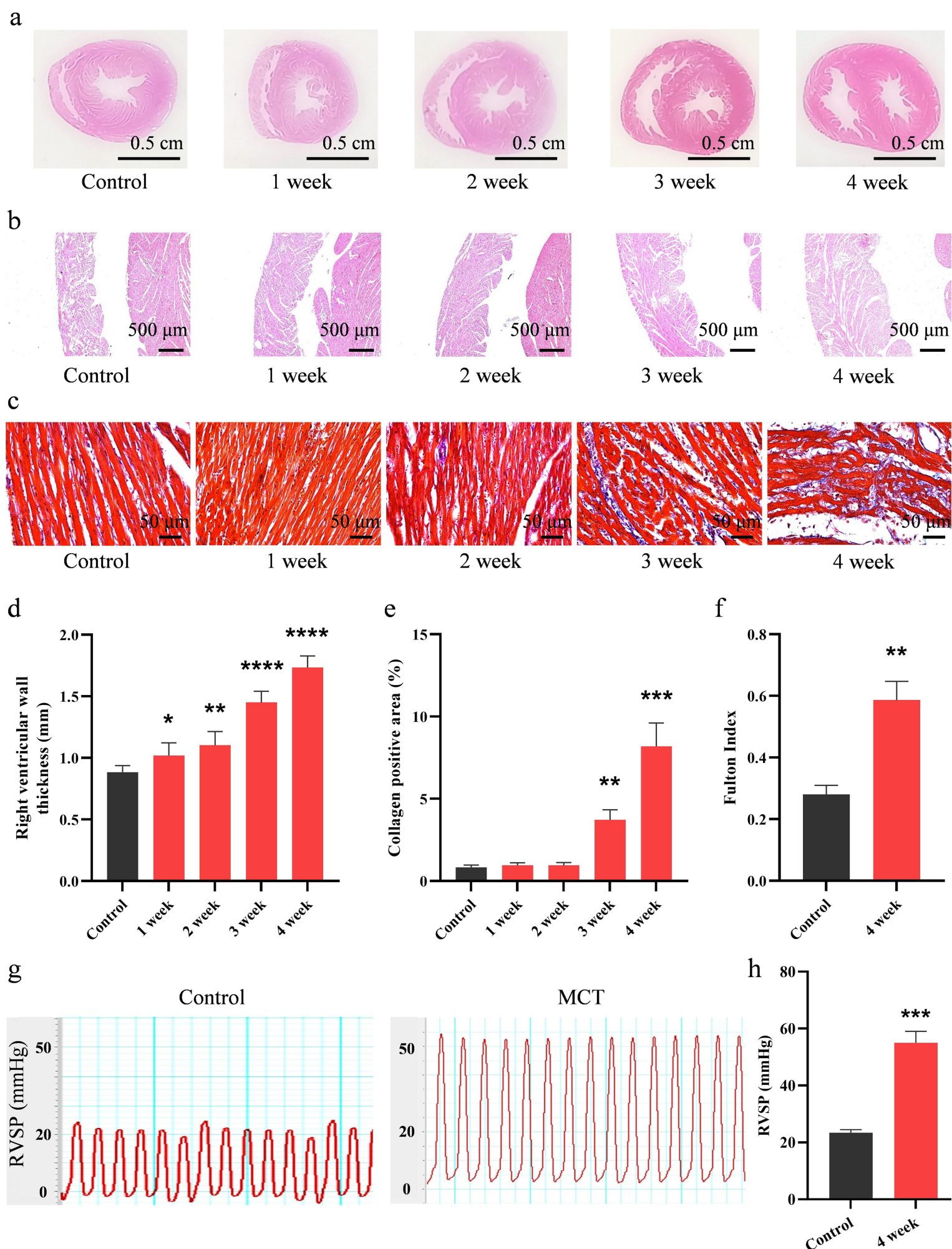




Supplementary Figure 1. MCT exposure induces pulmonary arterial hypertension accompanied by right ventricular hypertrophy and fibrosis. (a) Representative H&E-stained transverse sections of whole hearts from control and MCT-exposed rats at 1, 2, 3, and 4 weeks after MCT administration, showing progressive right ventricular hypertrophy (scale bar = 0.5 cm). (b) Representative higher-magnification H&E-stained sections demonstrating progressive thickening of the right ventricular wall following MCT exposure (scale bar = 500 μ m). (c) Representative Masson's trichrome-stained sections of the right ventricular myocardium showing increased collagen deposition (blue) and progressive myocardial fibrosis after MCT exposure (scale bar = 50 μ m). (d, e) Quantitative analyses confirm significant increases in right ventricular wall thickness (d) and collagen-positive area (e) in the MCT group compared to controls. (f) Fulton index in control and MCT-exposed rats at 4 weeks, demonstrating significant right ventricular hypertrophy. (g) Representative right ventricular pressure recordings from control and MCT-exposed rats at 4 weeks. (h) Quantitative analysis of RVSP, showing a significant increase in MCT-exposed rats compared with controls. Data are presented as mean $\pm$ SD (n = 3). * P < 0.05, ** P < 0.01, *** P < 0.001, **** P < 0.0001 versus the control group (unpaired Student's t-test).