

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: List of 140 genes in the MERFISH probe panel.

File Name: Supplementary Data 2

Description: List of differentially expressed genes between control and Ankrd11^{ncko} in CNCCs, calculated using the Wilcoxon rank-sum test.

File Name: Supplementary Movie 1

Description: Representative long axis B-mode recordings of Ankrd11^{ctrl} *in-utero* echocardiography.

File Name: Supplementary Movie 2

Description: Representative long axis B-mode recordings of Ankrd11^{ncko} *in-utero* echocardiography.