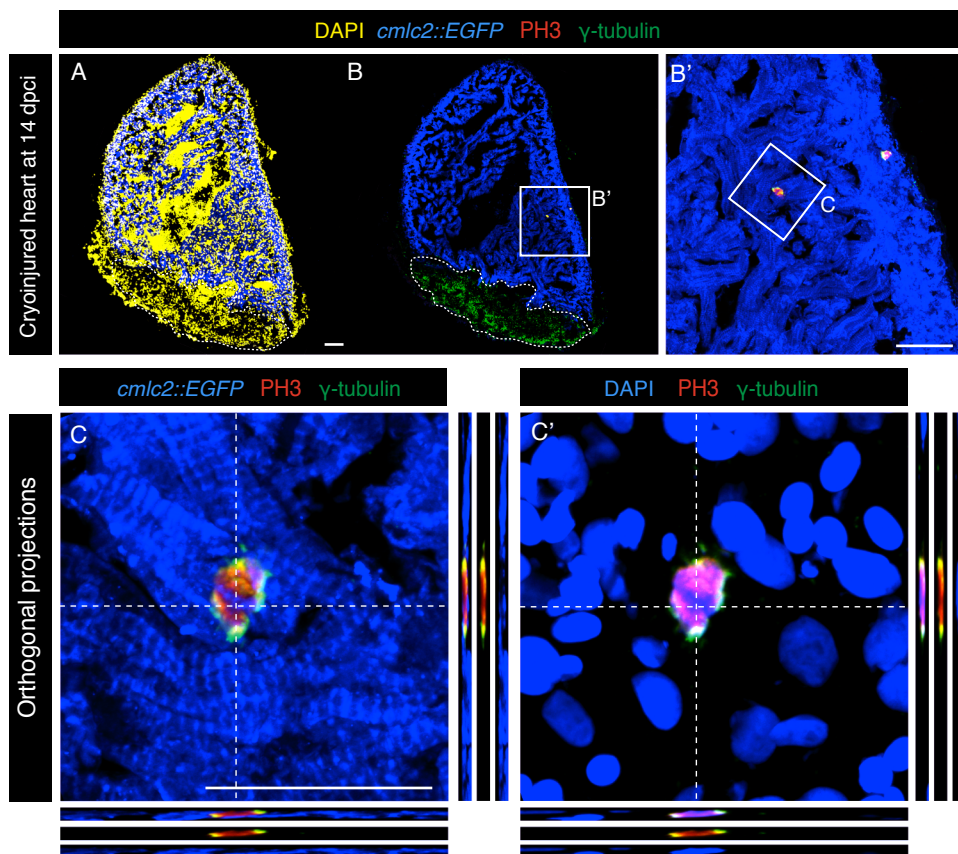


Suppl. Fig.1



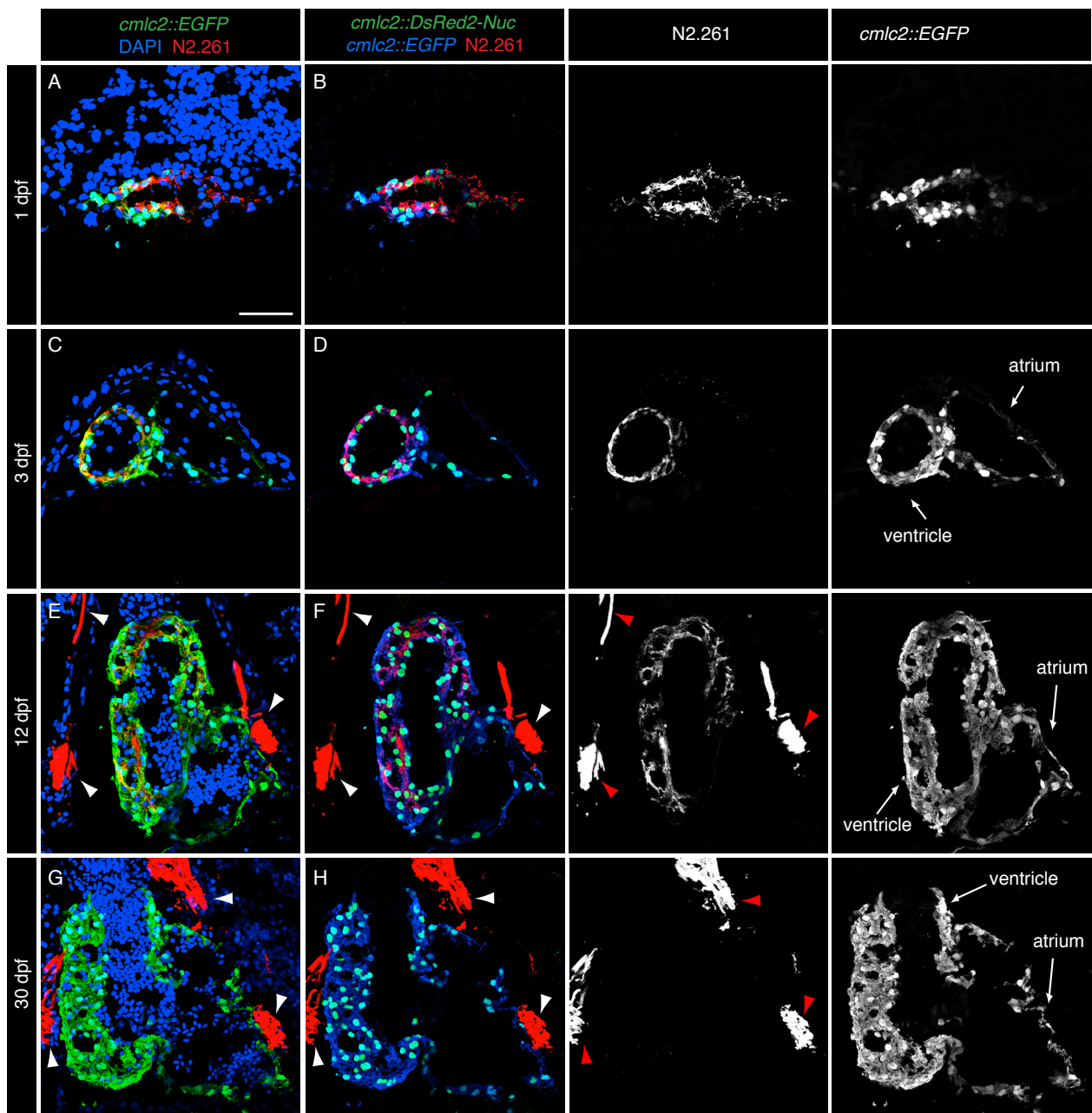
Mitotic CMs display upregulation of γ -tubulin.

(A-B) Representative image of a heart from *cmlc2::EGFP* transgenic fish at 14 dpci. Post-infarct tissue is encircled with a dashed line.

(B') Mitotic CMs were detected by the PH3 immunostaining (red). PH3-positive CMs enhance the expression of γ -tubulin (green), which is a component of the mitotic spindle apparatus.

(C) Orthogonal projections of a mitotic CM demonstrate a polarized distribution of γ -tubulin around the PH3-positive chromosomes. Scale bar (A, B', C) = 50 μ m. The low level of γ -tubulin in centrosomes of non-mitotic cells is not visible with these image acquisition settings because the levels were optimized according to the fluorescence intensity of PH3-positive cells.

Suppl. Fig.2



N2.261 antibody reacts with the embryo-specific cardiac myosin heavy chain isoform (embCMHC).

(A-H) Heart sections of double transgenic fish *cmlc2::EGFP; cmlc2::ds-Red-Nuc* at 1, 3, 12 and 30 days post fertilization (dpf). Before the immunostaining, the endogenous signal was quenched by 1M HCL treatment for 30 min followed by antibody staining against GFP, DsRed and N2.261.

At 1 dpf (A-B), N2.261 detects all CMs of the primordial heart.

At 3 dpf (C-D), N2.261 labels the embryonic ventricle, but not atrium.

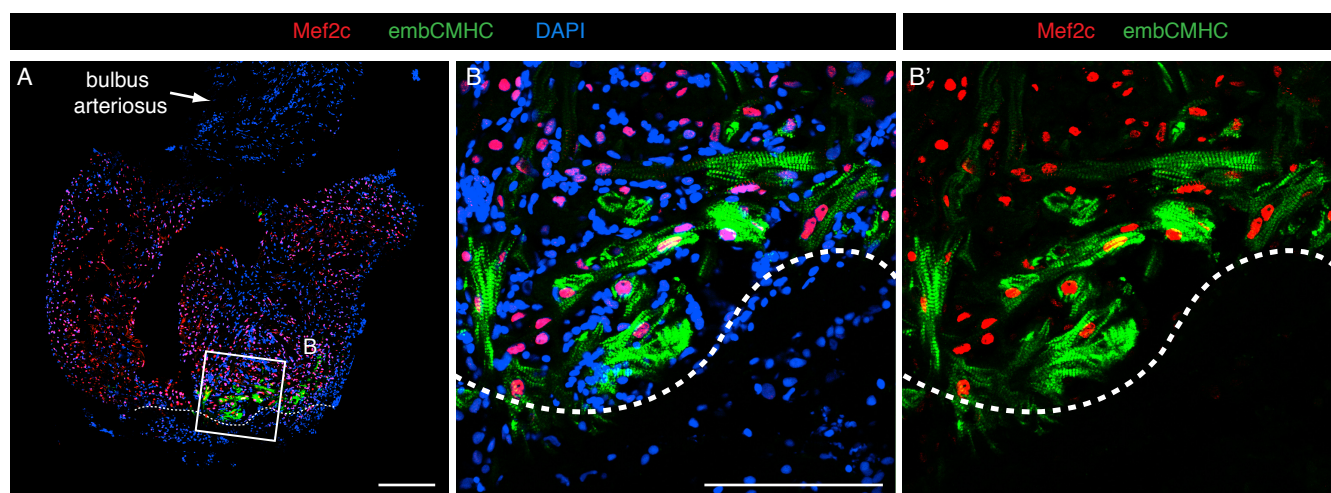
At 12 dpf (E-F), the N2.261 reactivity is confined to a subset of CMs located in the middle of the ventricle. No expression is detected at the outer cell layer of the ventricular wall.

At 30 dpf (G-H), the antigen of N2.261 is not longer expressed in the juvenile heart.

Some of skeletal muscles adjacent to the heart are strongly labeled by N2.261 (arrowheads in E-H).

Scale bar (A) = 50 μ m.

Suppl. Fig.3



EmbCMHC expression is reactivated in a cluster of undifferentiated CMs at the vicinity of the ventricular resection plane

(A) Representative picture of a wild type heart at 7 days post ventricular resection (dpa) labelled with DAPI (blue), Mef2c (red) and embCMHC (green). Dashed lines indicate the amputation plane.

(B-B') Higher magnification of the framed area shown in (A). EmbCMHC is expressed at the proximity of the amputation plane, where CMs dedifferentiate. Scale bar (A, B) = 100 μ m