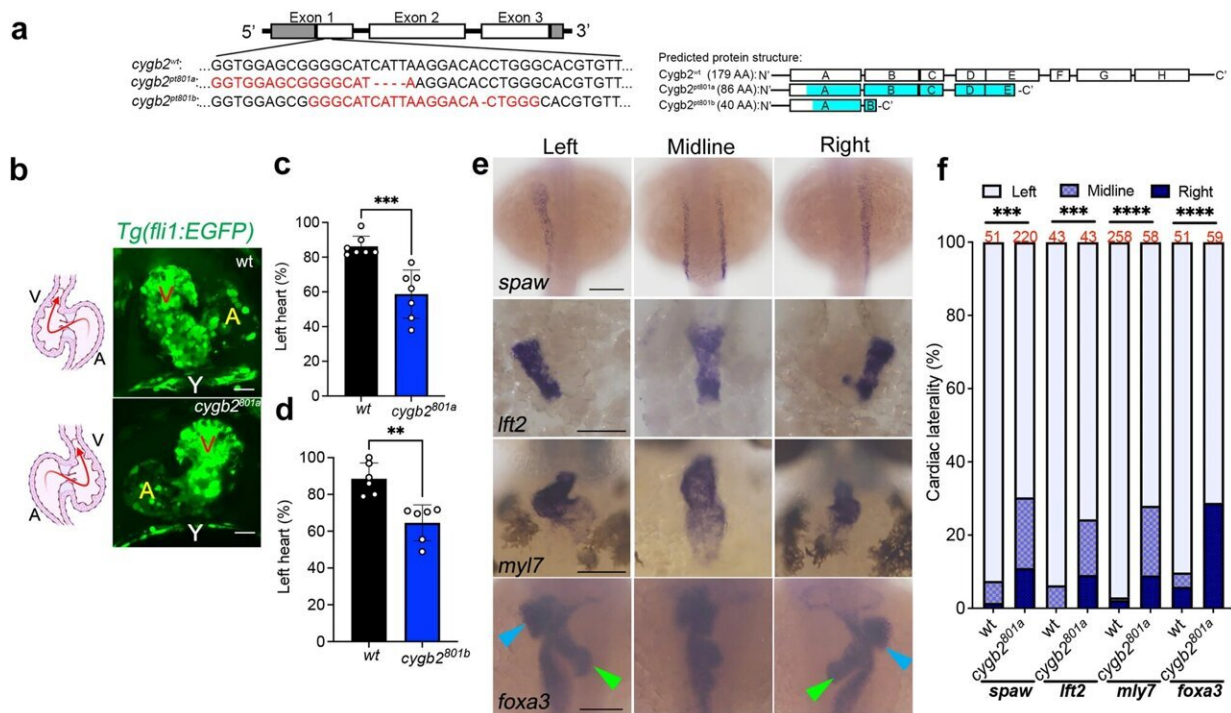


Researchers discover first-ever link between hemoglobin-like protein and normal heart development

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cygb2 mutant phenotype presents organ laterality defects. **a** CRISPR/Cas9 mediated genome editing of *cygb2*. Two different gRNA were targeted to exon 1 (denoted by red text) and resulted in 4 bp and 1 bp frame shift mutations (beginning in the blue shaded region of the predicted protein structure) named *cygb2*^{801a} and *cygb2*^{801b}, respectively. The eight globin protein helices (labeled A-H) are represented by boxes, with out-of-frame amino acids shaded blue. **b** Whole mount 3D confocal projections (right) of wt and *cygb2*^{801a} *tg(fli1:EGFP)* hearts at 4 days post fertilization (dpf) with schematic (left)

representing the heart morphology and direction of blood flow. V – ventricle, A – atrium, Y – yolk. Scale bar = 20 μm . **c, d** Quantification of the percentage of embryos with a left-sided heart loop in *cygb2*^{801a} and *cygb2*^{801b}. Means are \pm SD ($n = 6-7$, each n representing an independent experiment consisting of 50 embryos). Student's *t* test, two-tailed, ***P*

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