NOTE: Please save this file locally before filling in the table, DO NOT work on the file within your internet browser as changes will not be saved. Adobe Acrobat Reader (available free here) is recommended for completion.

The ARRIVE guidelines 2.0: author checklist

The ARRIVE Essential 10

These items are the basic minimum to include in a manuscript. Without this information, readers and reviewers cannot assess the reliability of the findings.

Item		Recommendation	Section/line number, or reason for not reporting
Study design	1	For each experiment, provide brief details of study design including: a. The groups being compared, including control groups. If no control group has been used, the rationale should be stated. b. The experimental unit (e.g. a single animal, litter, or cage of animals).	Controls were included in all experiments. In all animal experiments dealing with transgenic mice, we included wild-type (WT) littermate controls when comparing transgenic mice. Accordingly, mice were age matched. We validated our findings in both Adult mice were housed in grouped cages prior to the start of any experiment. Upon commencement of the experiment, all mice were placed in single cages throughout the
Sample size	2	a. Specify the exact number of experimental units allocated to each group, and the total number in each experiment. Also indicate the total number of animals used. b. Explain how the sample size was decided. Provide details of any *a priori* sample size calculation, if done.	All (n) numbers per group and the total (n) number in the corresponding experiment are provided in the figure legends. We included a reasonable number of mice per group to ensure reproducibility of biological findings and validation of biological significance, which in turn enables
Inclusion and exclusion criteria	3	a. Describe any criteria used for including and excluding animals (or experimental units) during the experiment, and data points during the analysis. Specify if these criteria were established *a priori.* If no criteria were set, state this explicitly. b. For each experimental group, report any animals, experimental units or data points not included in the analysis and explain why. If there were no exclusions, state so. c. For each analysis, report the exact value of *n* in each experimental group.	We set the initial criteria for inclusion and exclusion. In all experiments dealing with transgenic mice, we included age-matched wildtype (WT) littermates as the control group. We aimed to have matching numbers In Supplemental figure 6A, the quantifications of immunohistochemical staining of Cd45 / vascular area. One sample from the WT group and one sample All the analysis (n) numbers are detailed in figure legends and in Supplemental table 3 detailing all statistical analysis performed on every experiment.
Randomisation	4	a. State whether randomisation was used to allocate experimental units to control and treatment groups. If done, provide the method used to generate the randomisation sequence. b. Describe the strategy used to minimise potential confounders such as the order of treatments and measurements, or animal/cage location. If confounders were not controlled, state this explicitly.	In AAV experiments, we used random-numbers table to assign groups. We ordered mice from Janvier mouse supplier that were age, weight and gender matched. Upon mouse arrival, the mice were assigned running numbers to give them mouse IDs. Mouse assignment to the mouse ID was With the exception of lineage tracing experiments, all adult mice engaged in comparison experiments were housed in single cages throughout the whole duration of the experiment. Administration of any substance to mice that was needed for
Blinding	5	Describe who was aware of the group allocation at the different stages of the experiment (during the allocation, the conduct of the experiment, the outcome assessment, and the data analysis).	Formulation of research plans and subsequent experiment documentation was performed by the first author and was supervised by the last author. Access to the research plans and experimental files revealing the allocated groups was provided to all authors and technicians who
Outcome measures	6	a. Clearly define all outcome measures assessed (e.g. cell death, molecular markers, or behavioural changes). b. For hypothesis-testing studies, specify the primary outcome measure, i.e. the outcome measure that was used to determine the sample size.	The change in mRNA transcript levels from different tissues and visualization/quantification of target protein expression or phosphorylation from tissue Our initial hypothesis was that the autocrine VEGF-B signaling model could show comparable outcomes to the paracrine VEGF-B cardiac model. Since the paracrine model showed physiological cardiac
Statistical methods	7	a. Provide details of the statistical methods used for each analysis, including software used. b. Describe any methods used to assess whether the data met the assumptions of the statistical approach, and what was done if the assumptions were not met.	Prism 10.2.0 software was used for statistical analyses (GraphPad Software, San Diego, CA). All mouse (n) numbers and statistical tests used are indicated in figure legends. where absence of asterisk In experiments where (n) number was six or more per group, we tested for normality using Shapiro-Wilk test. If the data passed normality testing, we applied parametric
Experimental animals	8	a. Provide species-appropriate details of the animals used, including species, strain and substrain, sex, age or developmental stage, and, if relevant, weight. b. Provide further relevant information on the provenance of animals, health/immune status, genetic modification status, genotype, and any previous procedures.	Details regarding the age of mice and rats used in the study as well as strain and sub-strain, sex, age or developmental stage are documented in the methods section of the manuscript and in the major resources Details regarding the vendors used to acquire WT animals, genotype, and procedures are documented in the methods section of the manuscript and in the major resources table. The animals were housed
Experimental procedures	9	For each experimental group, including controls, describe the procedures in enough detail to allow others to replicate them, including: a. What was done, how it was done and what was used. b. When and how often. c. Where (including detail of any acclimatisation periods). d. Why (provide rationale for procedures).	Reported in the manuscript. Reported in the manuscript. Reported in the manuscript. Reported in the manuscript.
Results	10	For each experiment conducted, including independent replications, report: a. Summary/descriptive statistics for each experimental group, with a measure of variability where applicable (e.g. mean and SD, or median and range). b. If applicable, the effect size with a confidence interval.	All values from replicates within one experiment or pooled replicates from multiple experiments are presented in the figures as mean ± SEM in all figures of the study, where all datapoints can be visualized Not applicable based on our experiments