Reviewer’s report

Title: Manipulation of Valve Composition to Elucidate the Role of Collagen in Aortic Valve Calcification

Version: 1 Date: 10 January 2014

Reviewer: Katherine Yutzey

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The MS by Rodriguez et al examines the downstream effects of collagen depletion in porcine aortic valves in culture. In this study, collagen depletion leads to loss of other ECM components, increased proliferation, increased apoptosis, induction of osteogenic genes and calcification. The study design is clear and the data are convincing. The MS is well written and the rationale and conclusions are reasonable.

Discretionary Revisions

1. Histological representation of collagen depletion by pentachrome staining would be informative in Figure 1.

2. It would be easier to appreciate the calcification in von Kossa stained sections if panels were included at higher magnification in Figure 7A.

3. Additional information in the figure legends would be helpful. For example, it is not completely clear that the Westerns in Figures 4 and 5 were performed on day 6 tissue. This is implied, but not explicitly stated.

4. The last sentence of the discussion is a bit confusing.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare I have no competing interested.