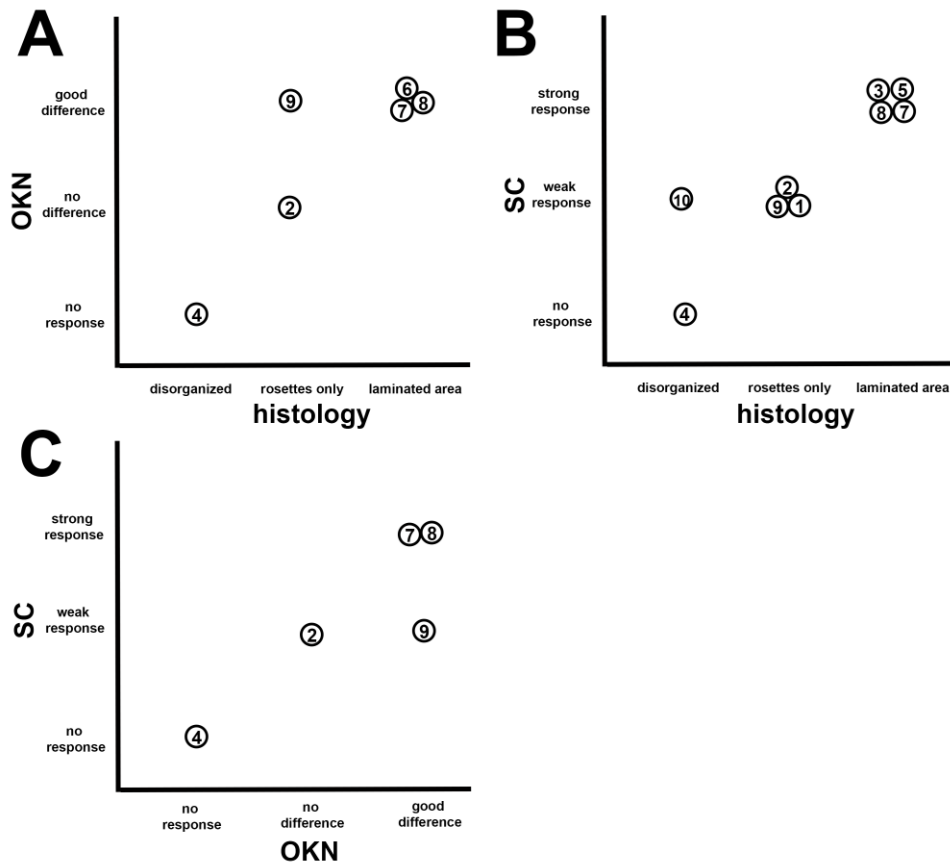


Supplemental Figure 1. The SD-OCT comparison of NIH nude and RD nude rats at age of 1 month. A, C): Example images of cross sectional retina OCT scans in A) NIH nude rat, and C) RD nude rat. Vertical scale = 50 μ m, horizontal scale = 300 μ m. **B, D):** Hematoxylin and eosin staining of the retina for B) NIH nude rat, and D) RD nude rat. At this age, the outer nuclear layer of the RD nude rat has been reduced to one cell layer. Scale = 50 μ m. **E):** Quantification of retinal layer thickness of OCT scans: NIH nude rats (n = 8) were compared to RD nude rats (n=11) at 1 month of age. Asterisks correspond to $p < 0.05$, color indicates significant difference for corresponding layer color. Abbreviations: RPE

- Retinal Pigment Epithelium, OR - Outer Retina, INL - Inner Nuclear Layer, IPL - Inner Plexiform Layer, NFL - Nerve Fiber Layer.



Supplemental Figure 2. Correlations between transplant organization (histology) and functional tests. A) Graphical representation of transplant **histology** (X-axis; disorganized, rosettes only, laminated area) **vs. OKN response** (Y-axis; difference between transplanted and non-transplanted eye). Only transplants with OKN test #3 (17-20 weeks) were included. The trend appears to be that the better the degree of organization within the transplant, the

better the OKN responses were at this time point although a rosetted transplant also shows . **B)** Graphical representation of **transplant histology (X-axis, see description for A) vs. SC responses** (Y-axis; no, weak, strong). Clear correlation of laminated organization within a transplant with stronger SC responses. However, even a disorganized transplant can still elicit weak SC responses. **C)** Graphical representation of **OKN responses (X-axis) vs. SC responses** (Y-axis). Only transplants with OKN test #3 (17-20 weeks) were included. In general, transplanted RD rats that had OKN responses with a clear distinction between transplanted and non-transplanted eye, yielded stronger SC responses.