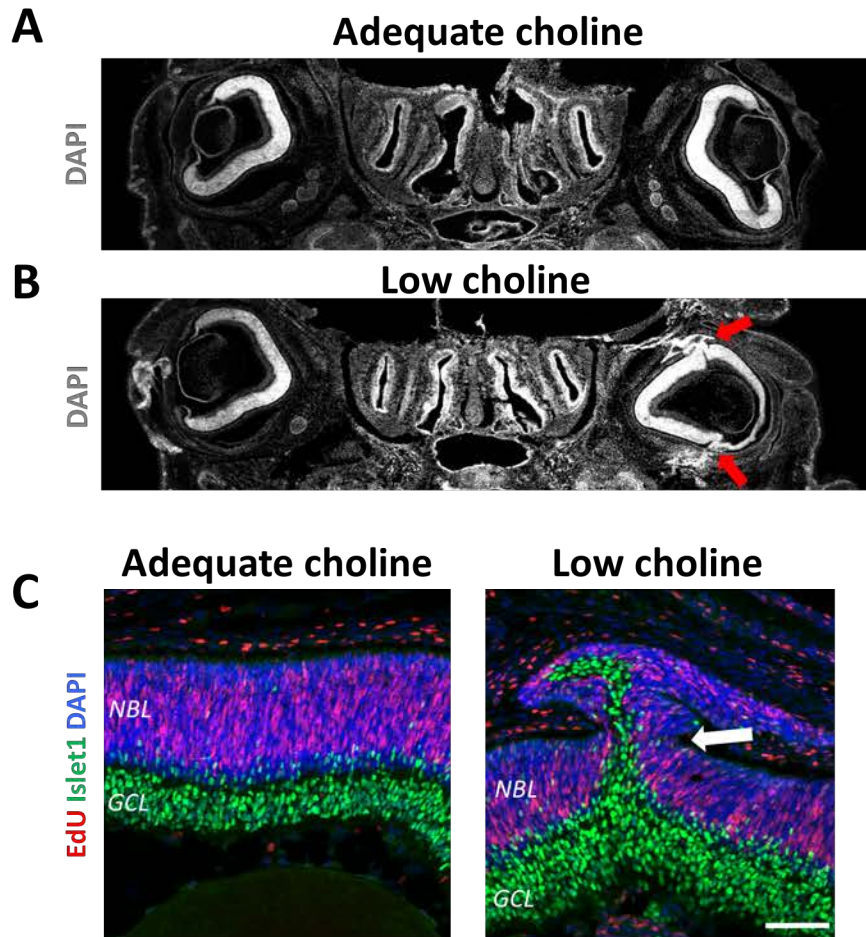
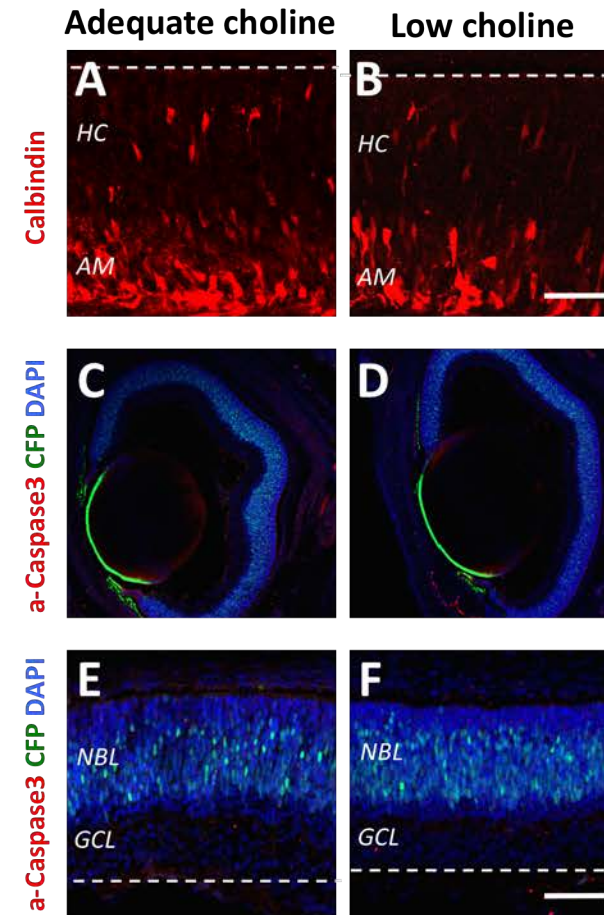


**Figure S2**



**Figure S2. Retinal integrity is compromised in a subset of low choline E17.5 retinas. A.** Tile images of coronal sections through E17.5 adequate choline embryos (brains removed) demonstrate normal organization of the retina revealed by DAPI staining. **B.** Focal disorganization of the retinal layer is observed in a subset of low choline E17.5 embryos ( $n = 4$ ) (red arrows). **C.** Immunostaining against Islet1 and EdU (24-hour pulse) demonstrates dislocation of RPCs and differentiating retinal ganglion and amacrine cells into subretinal space in a subset of low choline embryos (white arrow). *GCL* – ganglion cell layer; *NBL* – neuroblastic layer. Scale bar - (C): 100  $\mu\text{m}$ .

**Figure S3**



**Figure S3. Decrease in Calbindin-expressing differentiating horizontal and amacrine cells and lack of appreciable numbers of apoptotic cells in E17.5 low choline retinas. A-B.** Reduced densities of Calbindin-expressing differentiating horizontal (*HC*) and amacrine cells (*AM*) are observed in low choline (**B**) compared to adequate choline (**A**) E17.5 retinas. **C-F.** Expression of activated Caspase 3, marking apoptotic cells (red), is not appreciably different between low choline (**D**; **F** – larger magnification of image in **D**) and adequate choline (**C**; **E** – larger magnification of image in **C**) E17.5 *NestinCFP<sup>+/+</sup>* retinas. Dotted line designates ganglion cell layer (*GCL*) boundary. *AM* – amacrine cell; *HC* – horizontal cell; *NBL* – neuroblastic layer. Scale bar in (**B**): 100  $\mu\text{m}$ .