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Figure S6: AAV2/8BP2(4XMG6-ChR2d-EGFP)
Specific staining of ON-bipolar cells is shown in wild-type mouse retina subretinally injected with a 2µl volume of a 7×12gc/ml stock of AAV2/8BP2(4XMG6- EGFP). The EGFP protein expression is shown in green, cell nuclei are shown in blue (Hoechst), and ChAT stain is shown in magenta.

Figure S7: Rhodopsin expression in cells transduced with AAV viruses.
RT-qPCR for rhodopsin expression shows the absence of expression of rhodopsin in AAV2/8BP2(4xGRM6-ChR2d-EGFP) retinas.

Figure S8: AAV2/8BP2 transduces human ON bipolar cells (as well as photoreceptors and ganglion cells).Confocal images from a cryosection from a postmortem human retina that had been infected with AAV2/8BP2-CMV-GFP showing (left) GFP-positive cells and (right) cells labeled by immunofluorescence with Goα (red). Arrowheads indicate ON bipolar cells, i.e. GFP-positive cells (green) that were also Goα-positive (red). Note that there are also GFP-positive photoreceptors and ganglion cells. DAPI labels the nuclei (blue).
Scale bar 20 µm.

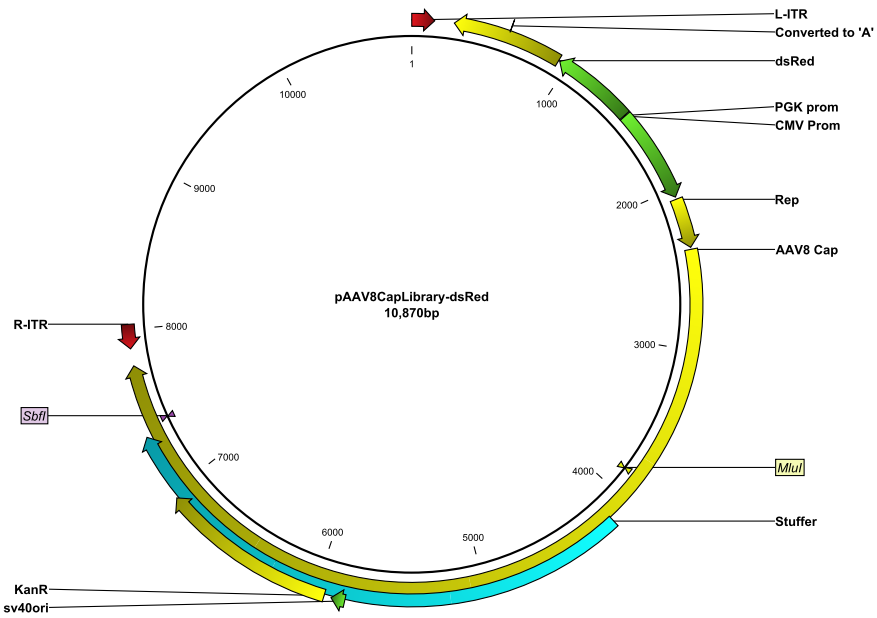
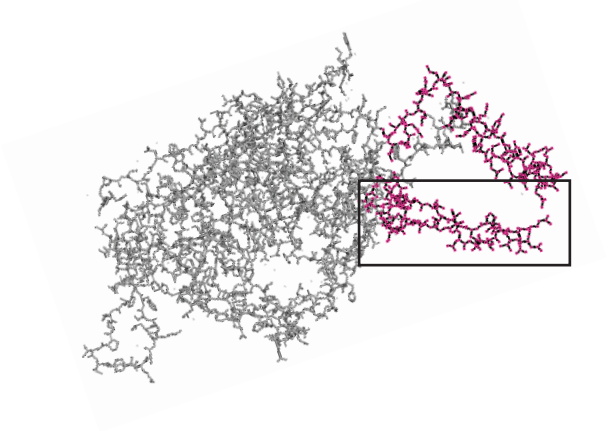


Figure S1a

Figure S1b



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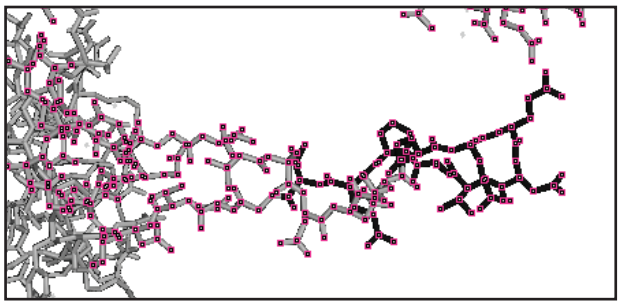

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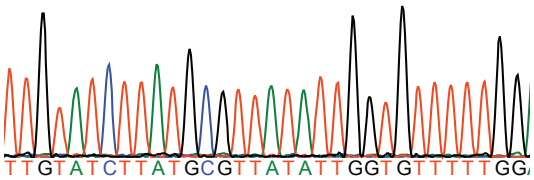

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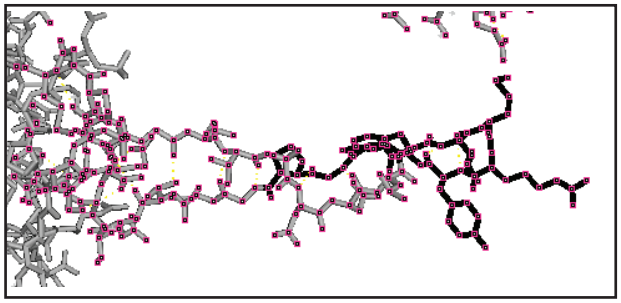

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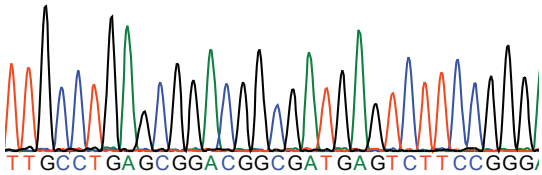

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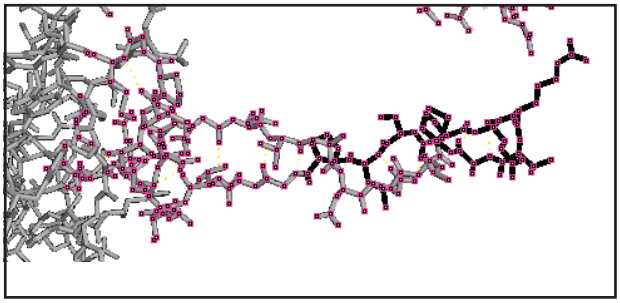

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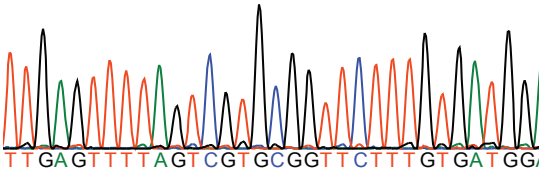

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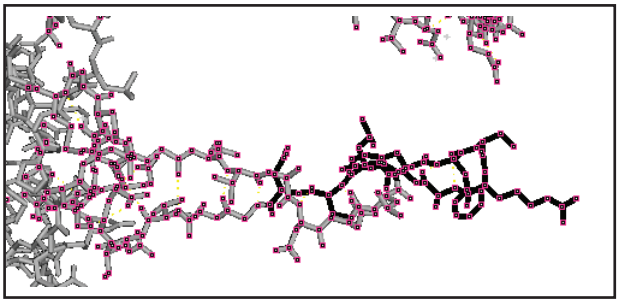

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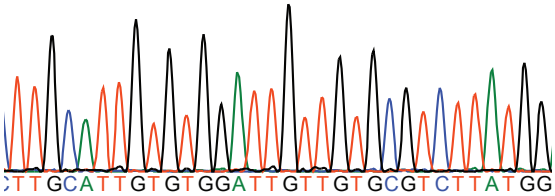

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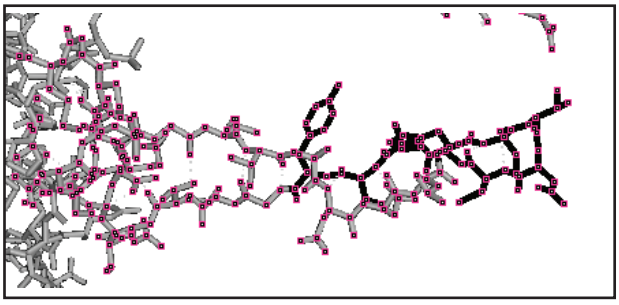

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Figure S2

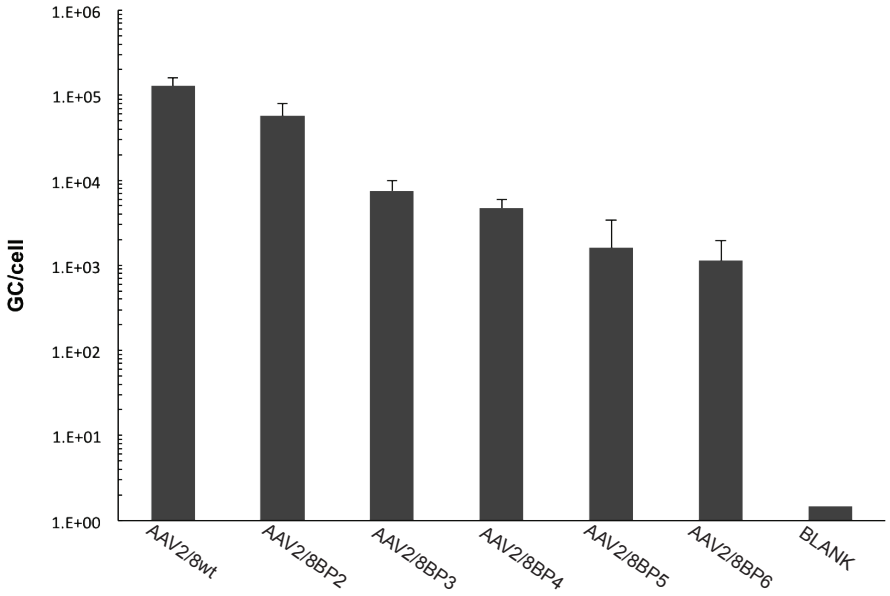
GC/cell
1.E+06
1.E+05
1.E+04
1.E+03
1.E+02
1.E+01
1.E+00
AAV2/8wt
AAV2/8BP2
AAV2/8BP3
AAV2/8BP4
AAV2/8BP5
AAV2/8BP6
BLANK

Figure S3

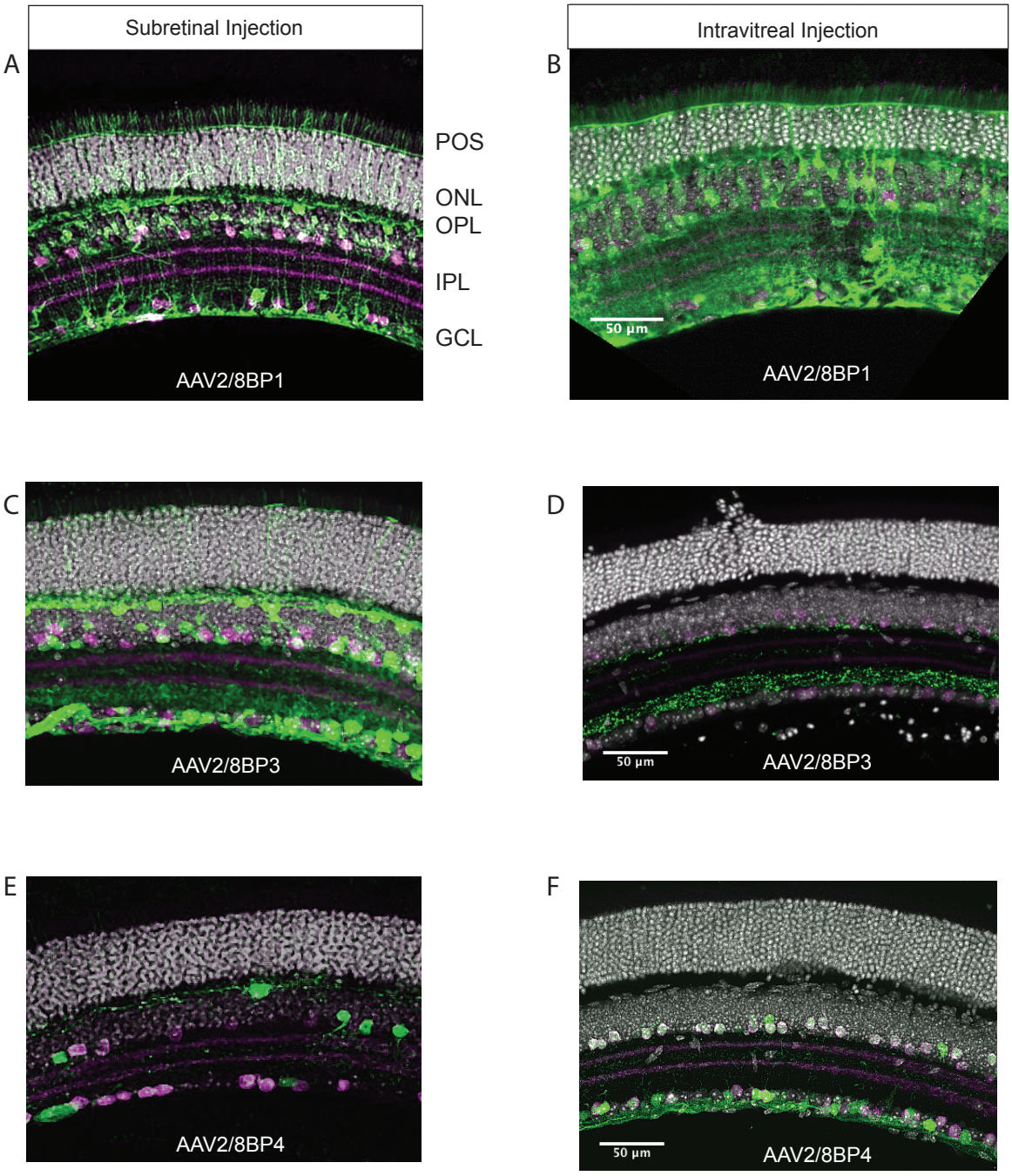
Subretinal Injection
A
POS
ONL
OPL
IPL
GCL
AAV2/8BP1
Intravitreal Injection
B
50 µm
AAV2/8BP1
C
AAV2/8BP3
D
50 µm
AAV2/8BP3
E
AAV2/8BP4
F
50 µm
AAV2/8BP4

Figure S4

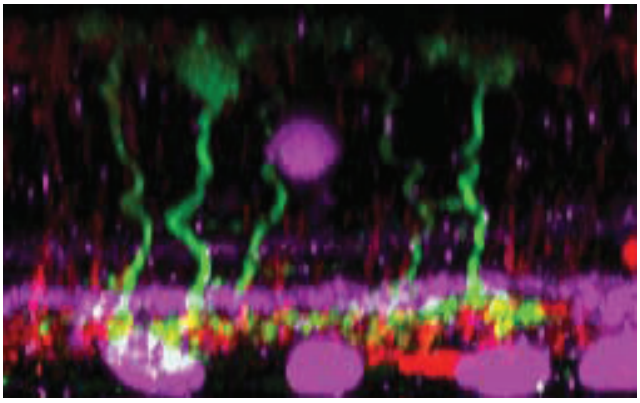

Figure S5

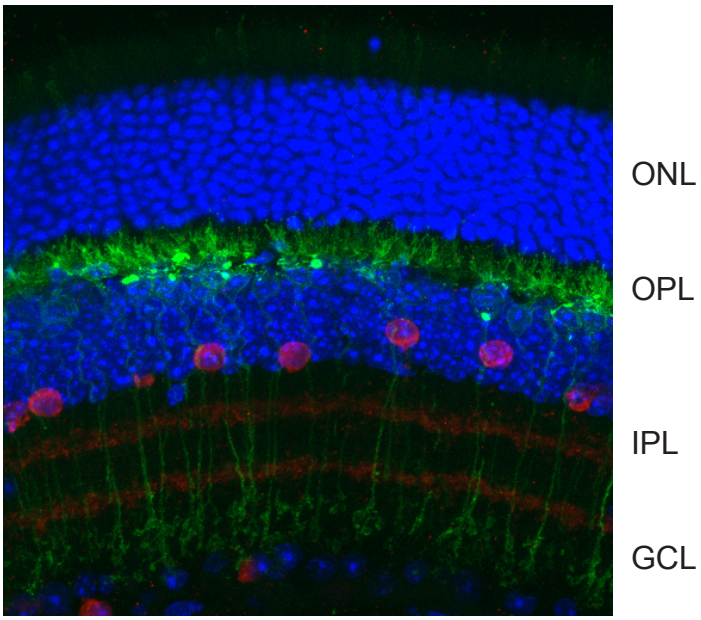

Figure S6

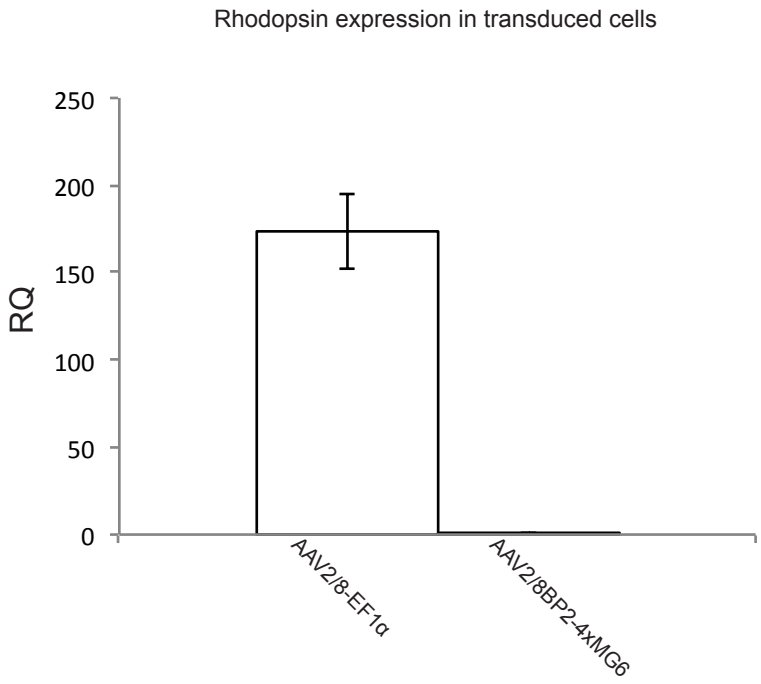
Rhodopsin expression in transduced cells
RQ
250
200
150
100
50
0
AAV2/8-EF1α
AAV2/8BP2-4xMG6

Figure S7

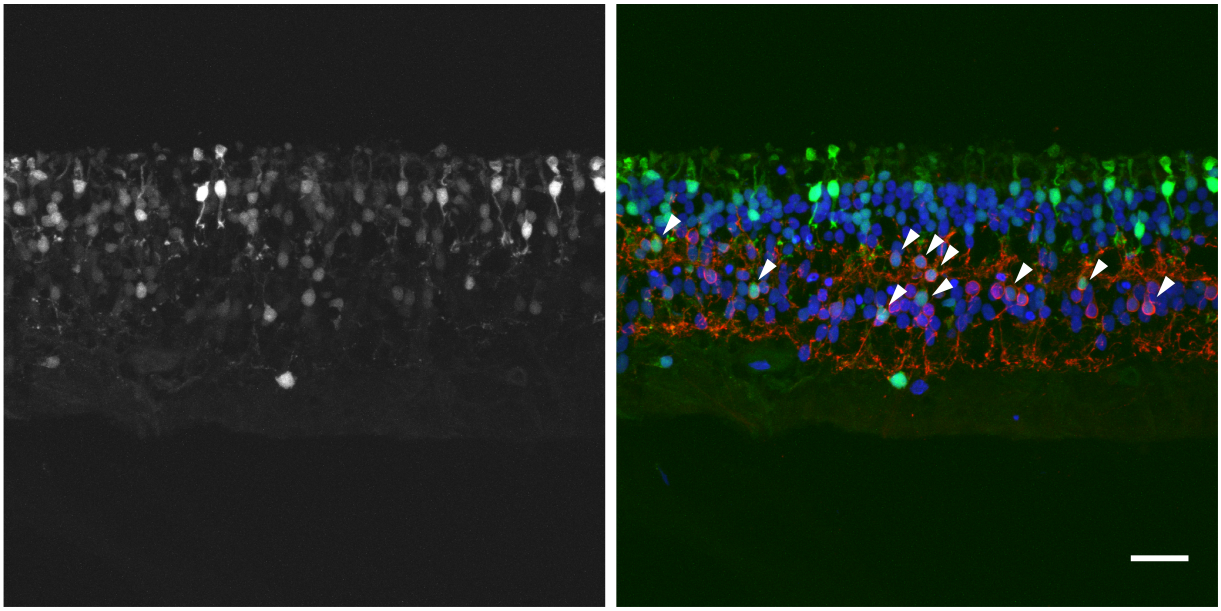

Figure S8