Supporting Information

Maurya et al. 10.1073/pnas.1708321114

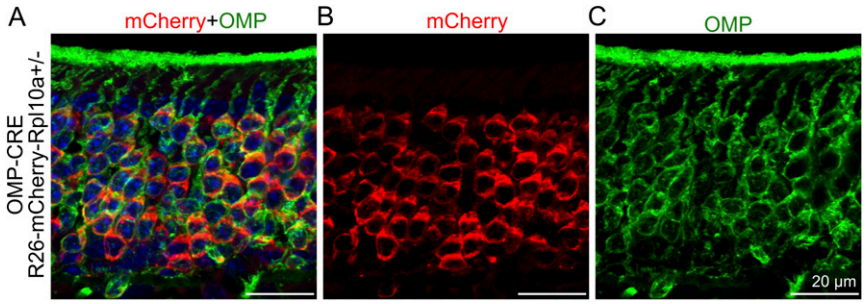

Fig. S1. CRE-mediated recombination in OSNs of transgenic OMP-CRE mice. OMP-CRE mice were crossed to a reporter mouse line (R26-mCherry-Rpl10a) that carry a mCherry reporter gene under the transcriptional control of a floxed (ROSA)26Sor locus (38). (*A*–*C*) A double mCherry and OMP immunohistochemical analysis showing that mCherry expression, activated by CRE-mediated recombination, is specific to OMP-positive OSNs.

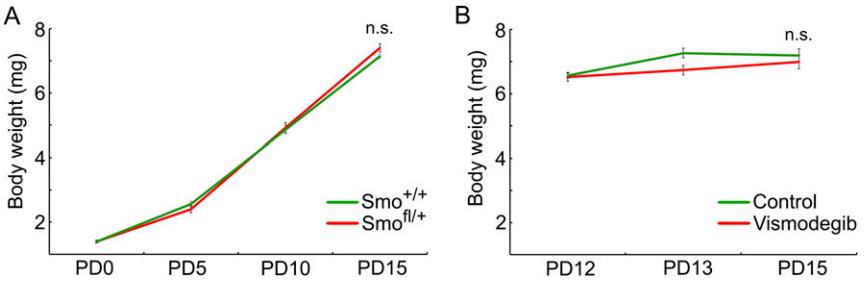

Fig. S2. Genetic and pharmacological inhibition of Smo does not affect body weight. (*A*) Body weight change of PD0–PD15 $Smo^{+/+}$ and $Smo^{+/-}$ mice. Values represent mean ± SEM, $n = 7$, n.s., not significant. (*B*) Body weight of vismodegib-treated and vehicle (DMSO)-treated control mice during the treatment period (PD12–PD15). Values represent mean ± SEM, $n = 12$. n.s., not significant.

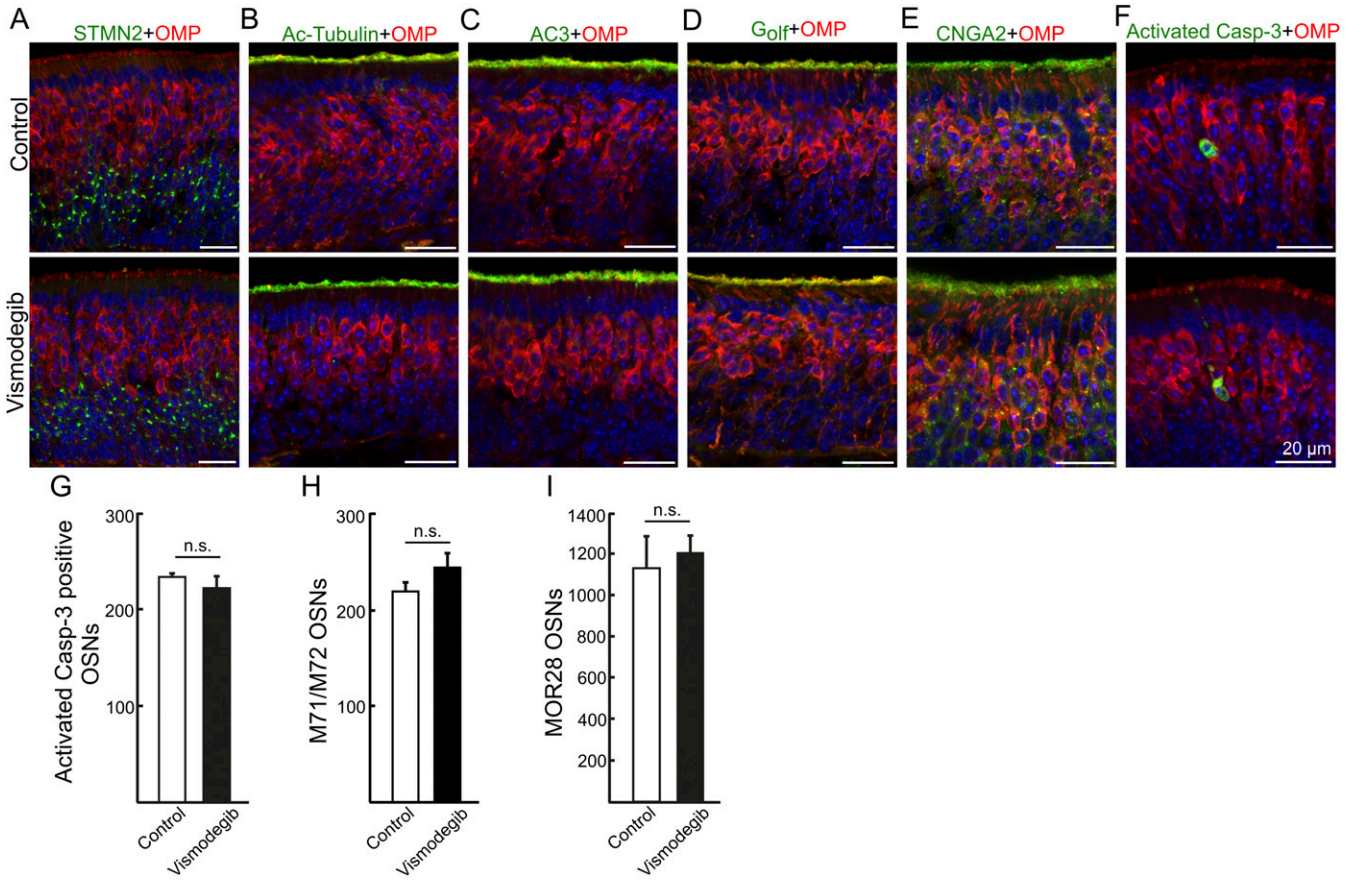

Fig. S3. OSN differentiation, survival, and ciliary expression of Ac-Tubulin, AC3, Gαolf, and CNGA2 are not affected by vismodegib. Double immunohistochemical analyses showing similar expression in DMSO (vehicle)-treated control mice and vismodegib-treated mice of (*A*) STMN2 and OMP in immature and mature OSNs, respectively. (*B*) Ac-Tubulin in cilia, (*C*) AC3, (*D*) Gαolf, (*E*) CNGA2, and (*F*) activated caspase-3. (*G* and *H*) Quantification of OSNs immunopositive for activated caspase-3, M71/M72, and MOR28. All values represent mean ± SEM, $n = 3$. n.s., not significant.

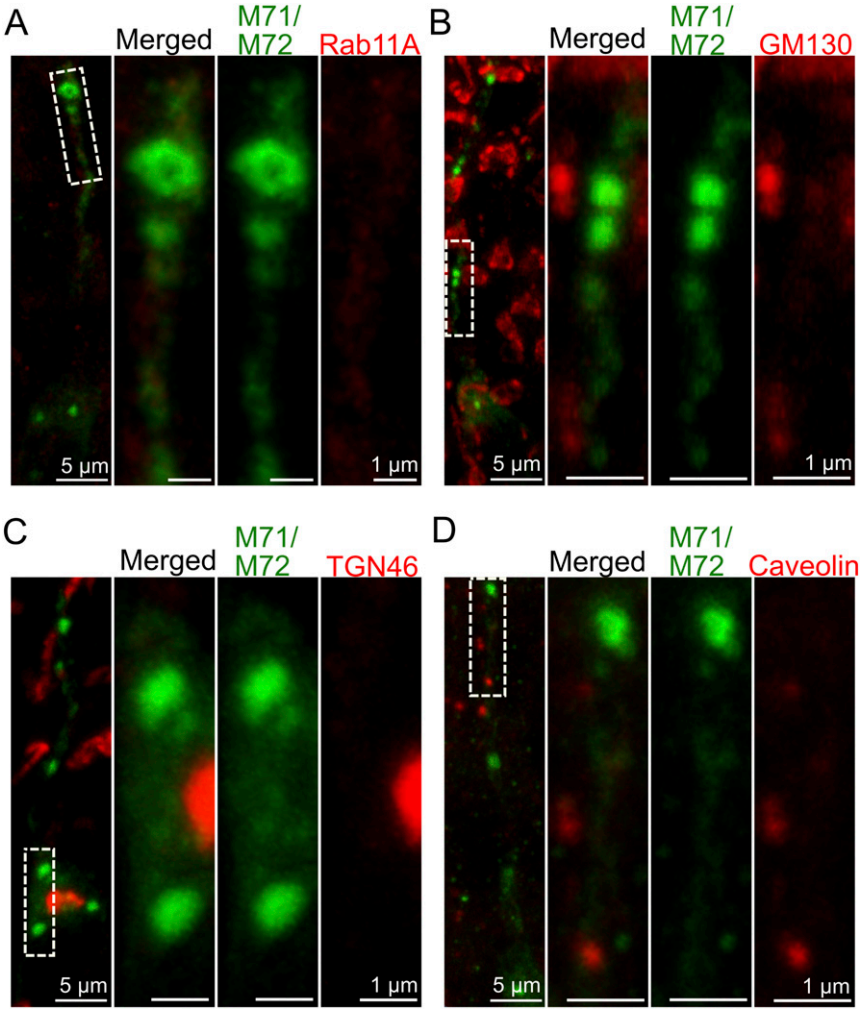

Fig. S4. OR-positive puncta do not colocalize with Rab11A, Golgi markers, and Caveolin. Double immunohistochemical analyses of OSNs, in vismodegib-treated mice, with anti-M71/M72 antibody and antibodies for (*A*) Rab11A, (*B*) GM130 (*cis*-Golgi marker), (*C*) TGN46 (*trans*-Golgi marker), and (*D*) Caveolin. In each panel, the three images to the *Right* are a close-up of the area that is boxed in the image to the *Left*.

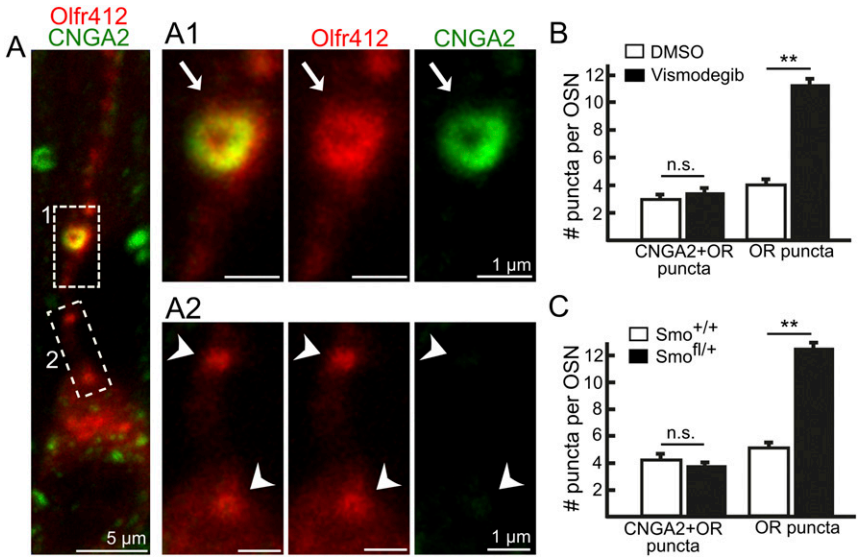

Fig. S5. Olfr412-positive puncta that colocalize with CNGA2 do not increase in number. (*A*) Identification of Olfr412-positive puncta in vismodegib-treated mice that colocalize with CNGA2 (arrow in *A1*) as well as Olfr412-positive puncta that do not colocalize with CNGA2 (arrowheads in *A2*). In each panel, the three images to the *Right* are a close-up of the area that is boxed in the image to the *Left*. (*B* and *C*) Quantification of Olfr412-positive puncta that are negative and double-positive CNGA2 in vehicle (DMSO)-treated, visomdegib-treated, $Smo^{+/+}$, and $Smo^{fl/+}$ mice. All values represent mean ± SEM. The *n* values in *B* and *C* are 43 (DMSO treated), 46 (vismodegib treated), 52 ($Smo^{+/+}$), and 63 ($Smo^{fl/+}$). Three pairs of mice for both the DMSO/vismodegib comparison and the $Smo^{+/+}$/$Smo^{fl/+}$ comparison were analyzed. $^{**}P < 0.01$. n.s., not significant.