

**Supplemental Figure 1:** The downstream signaling of HS-binding morphogens in Ext1-disrupted neural crest cells in the embryo at E13.5. *Wnt1-Cre;Ext1<sup>flox/flox</sup>* embryos (A) and control embryos (C) showed no differentiation of the phosphorylated Erk1/2 immunoreactivity in the developing anterior segment. As compared to the control embryos (B), the phosphorylation of Smad2 was significantly decreased in the palatal

shelf of the mutant embryos (D). c, cornea; KO, Wnt1-Cre;Ext1<sup>flox/flox</sup>; ps, palatal shelf;

\*, presumptive ciliary body.