

Title: Supplementary Movie 1:

Description: 3D view of an oral pole showing *Fgfrb* expression (green) visualized by mRNA *in situ* hybridization and trained nuclei (blue). The 3D view was reconstructed using Imaris x64 9.2.1 (full ref: Imaris v 9.2.1, ImarisXT, Bitplane AG, software available at <http://bitplane.com>)

Title: Supplementary Movie 2:

Description: 3D view of the oral pole for the *Fgfrb-eGFP* transgenic line stained with α -eGFP (green) and Hoechst (blue).

Title: Supplementary Movie 3:

Description: ~Confocal z-stacks of the oral pole for a sibling polyp carrying the *Fgfrb-eGFP* transgene and stained with α -eGFP (green), phalloidin (red) and Hoechst (blue). Scale bar is 50 μ m.

Title: Supplementary Movie 4:

Description: Confocal z-stacks of the oral pole for an *Fgfrb* mutant polyp carrying the *Fgfrb-eGFP* transgene and stained with α -eGFP (green), phalloidin (red) and Hoechst (blue). Scale bar is 50 μ m.