

Supplementary Figures

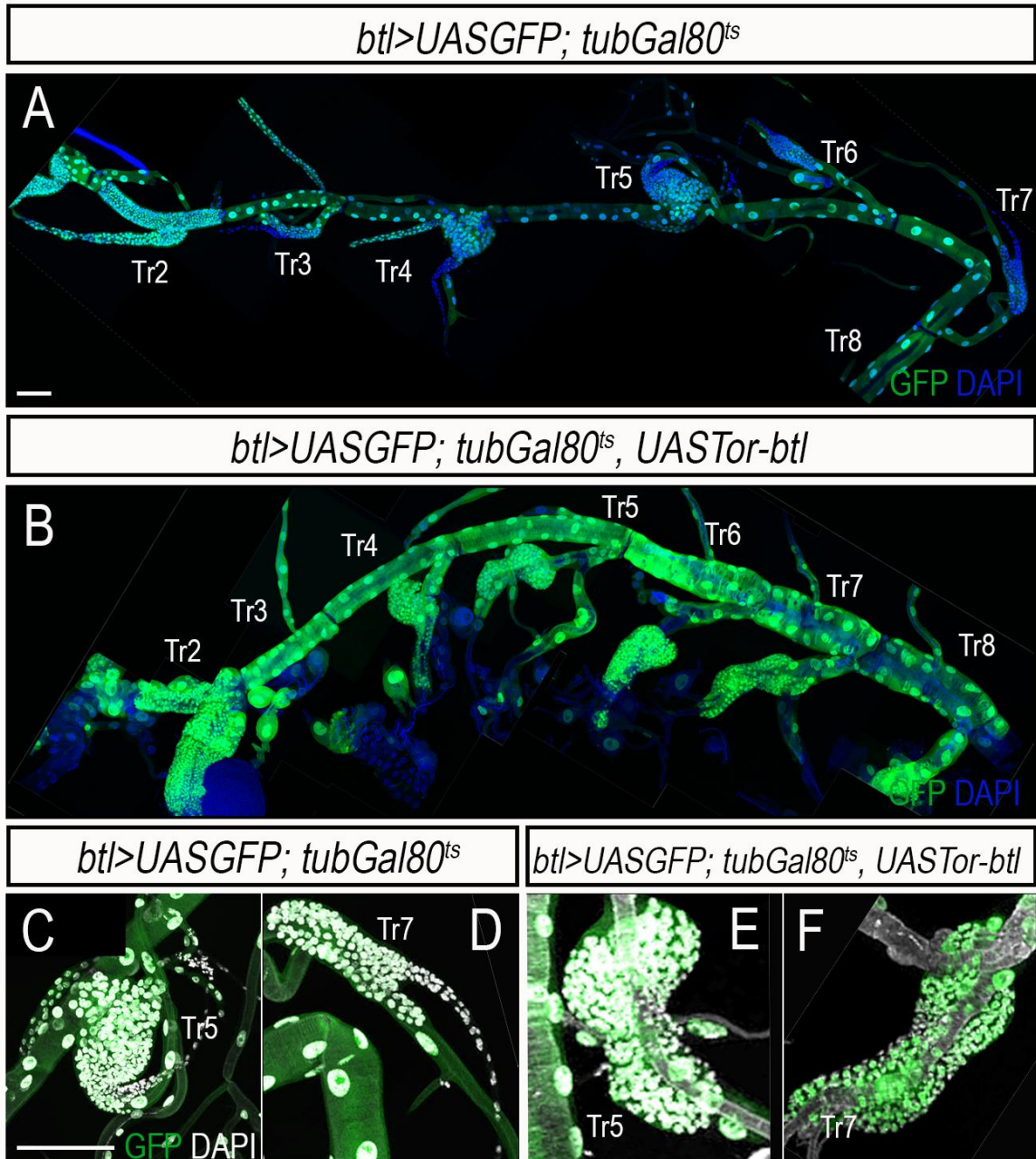
Dual role of FGF in proliferation and endoreplication of *Drosophila* tracheal adult progenitor cells

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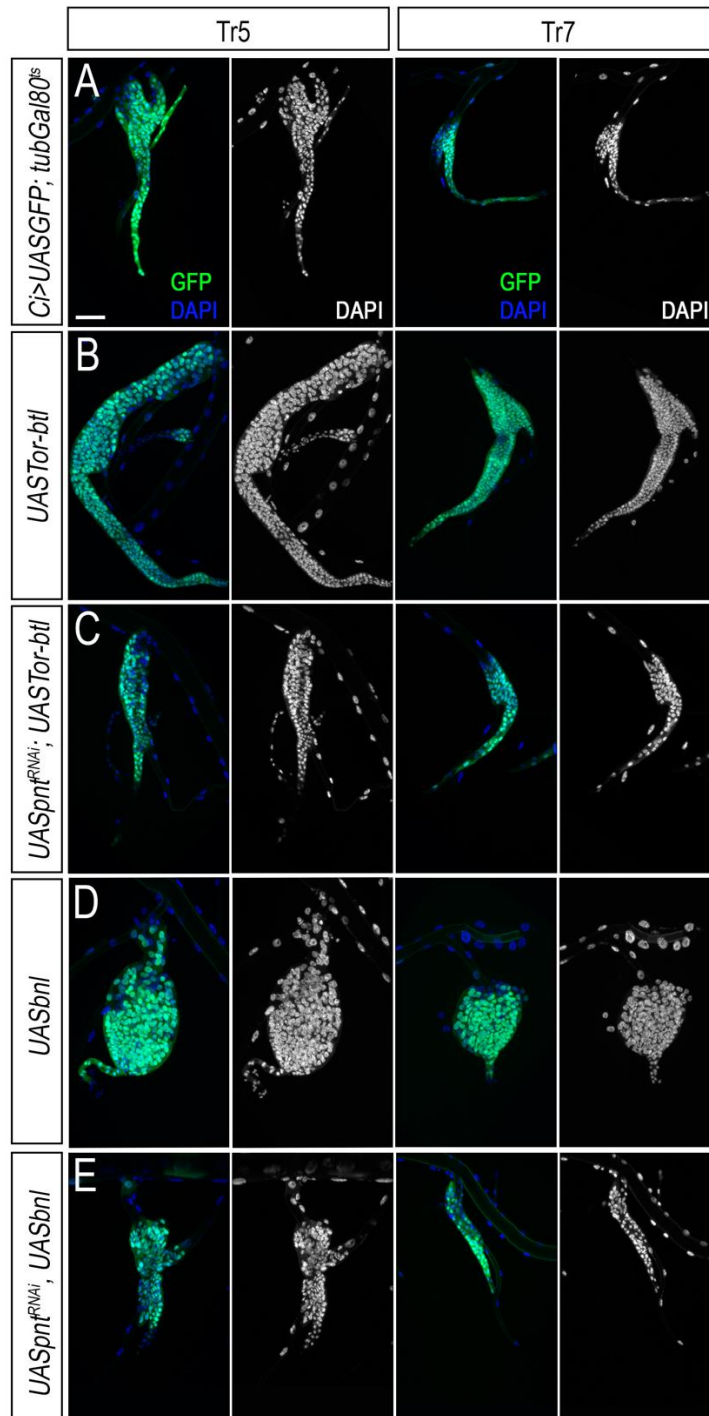
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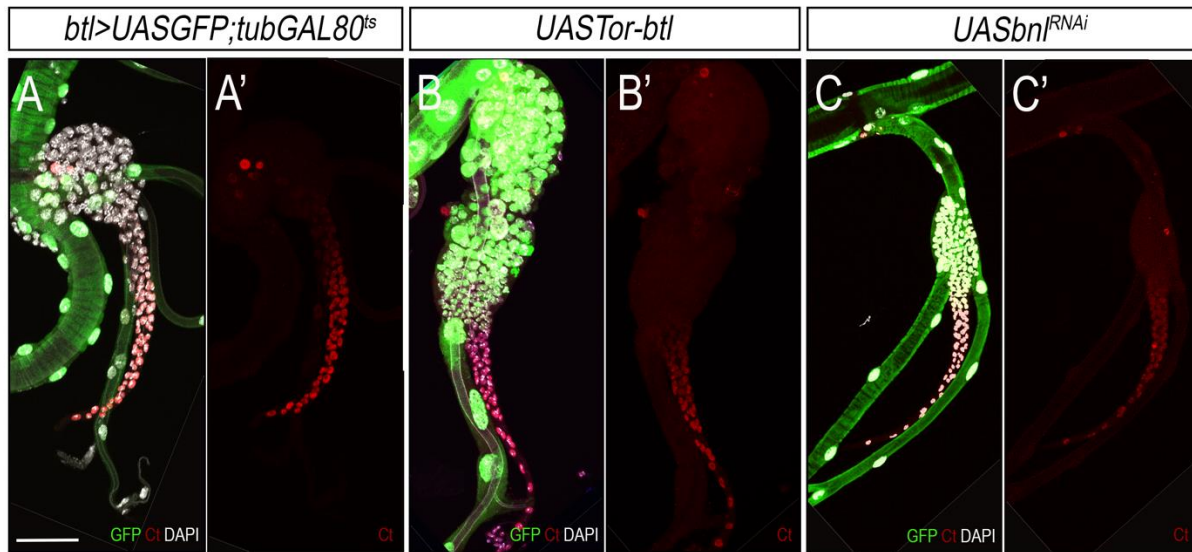
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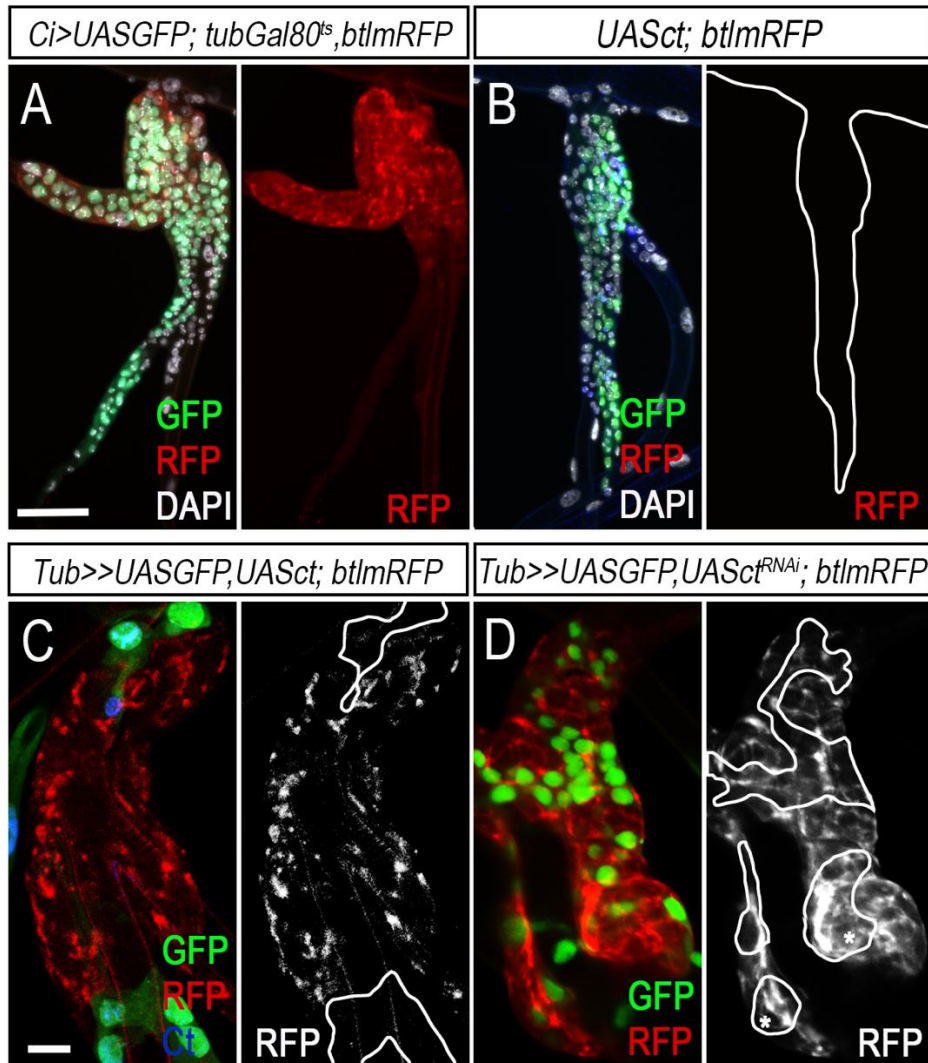
Supplementary Figure 1. Effect on SB development upon Bnl/FGF signaling overactivation. (A) Control *btl>UASGFP; tubGal80^{TS}* whole tracheal system showing all SB marked with GFP (green) and DAPI (blue). Note that only Tr4 and Tr5 SB develop. (B) Whole tracheal system of late L3 larvae overexpressing *UASTor-btl*. Note that over activation of Bnl/FGF signaling induces proliferation of all SBs. (C) Tr5 and (D) Tr7 SB control cells. (E) Tr5 and (F) Tr7 SB cells overexpressing *UASTor-btl* under the control of *btl>UASGFP; tubGal80^{TS}*. Scale bars represent 100 μ m.



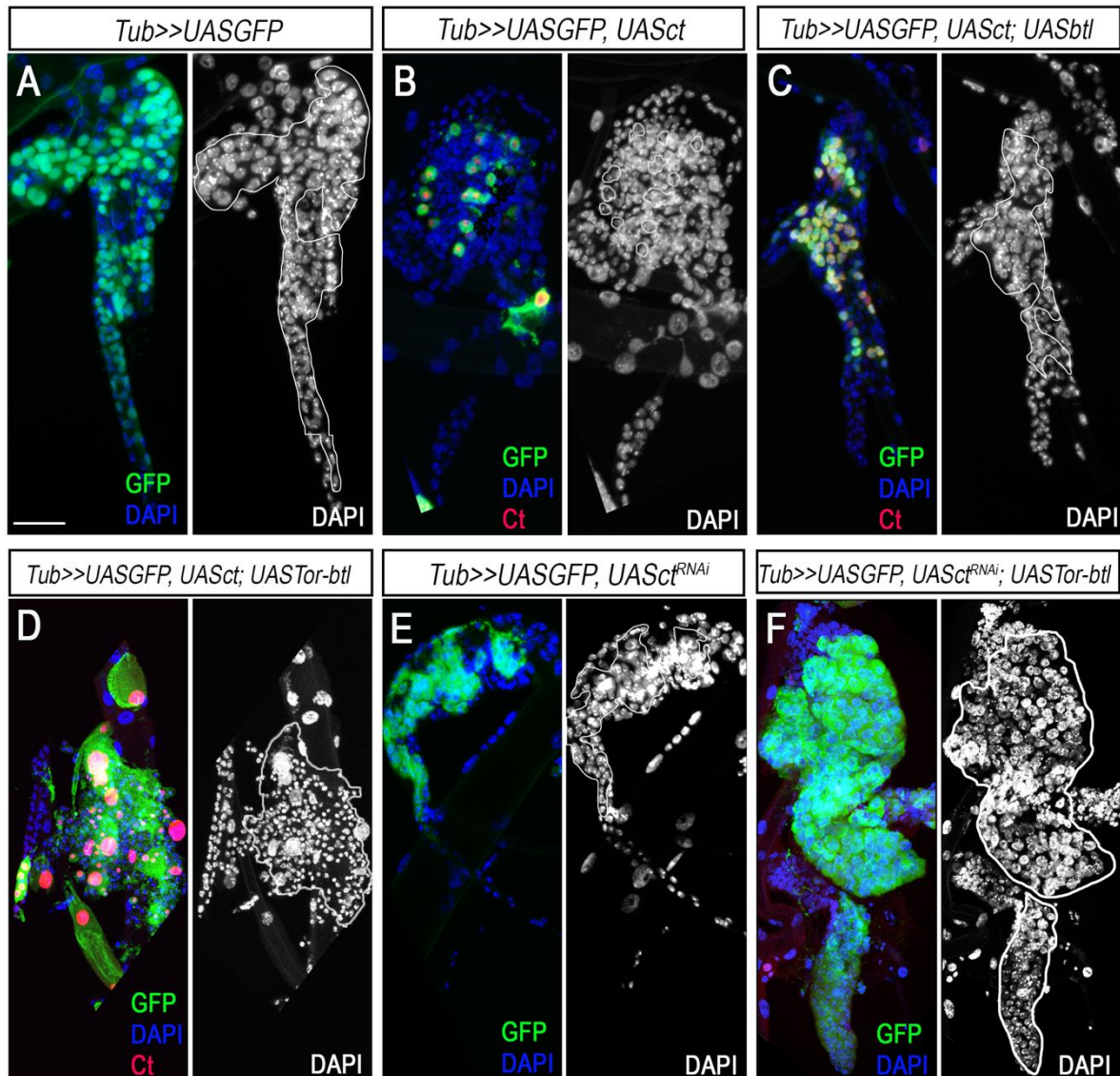
Supplementary Figure 2. Bnl/FGF signaling depends on Pnt transduction in SB cells. (A-E) Tr5 and Tr7 SBs marked with GFP (green) and DAPI (blue and grey) overexpressing under control of *CiGal4; tubGal80^{TS}* (A) *UASGFP* (Control), (B) *UASTor-btl*, (C) *UASTor-btl* and *UASpnt^{RNAi}*, (D) *UASbni* and (E) *UASbni* and *UASpnt^{RNAi}*. Note that depletion of *pnt* reverts the proliferative effect of the overactivation of Bnl/FGF signaling. Scale bars represent 50 μ m.



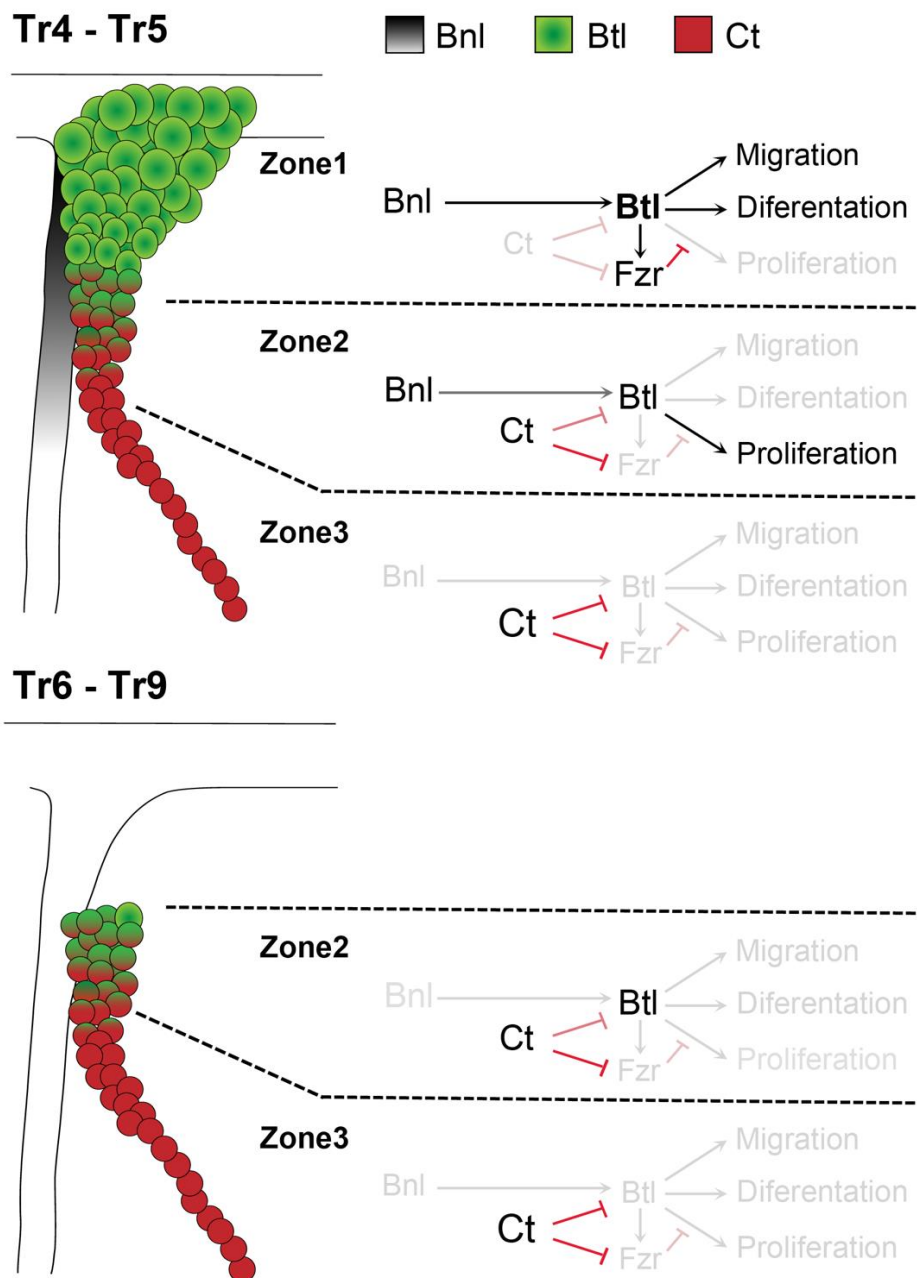
Supplementary Figure 3. Bn/FGF signaling effect on *ct* expression. In all pictures GFP is shown in green, Ct in red and DAPI in grey. (A-A') *btl>UASGFP; tubGal80^{TS}* control SB. (B-C') SB cells overexpressing either (B-B') *UASTor-btl* or (C-C') *UASbni^{RNAi}*. Scale bars represent 50 μ m.



Supplementary Figure 4. Ct regulates the expression of the receptor *btl*. (A) Control SB *Ci>UASGFP; tubGal80^{TS}* revealed by GFP and DAPI (in green and grey respectively) showing the expression of *btl-mRFP* reporter in zone 1 and 2 (in red). (B) Overexpression of *ct* under the control of *Ci>UASGFP; tubGal80^{TS}* represses the expression of *btl-mRFP*. White line delineates SB shape. (C) *ct* overexpressing clones in zone 1 and 2 of SB (labelled by GFP in green and Ct in blue) showing the loss of *btl-mRFP* reporter expression (in red). In grey *btl-mRFP* reporter only. (D) SB clone cells overexpressing *UASct^{RNAi}* (marked by GFP) in the background of the *btl-mRFP* reporter (red). Grey shows *btl-mRFP*. Note that an increase in *btl-mRFP* expression is only detected in the clones located in zone 2 (asterisks), where *ct* is normally expressed. White lines delineate clone boundaries in (C) and (D). Scale bars represent 50 μ m in A-B and 10 μ m in C-D.



Supplementary Figure 5. Effect of Ct in Bnl/FGF signaling activation. (A) SB with flip-out control clones visualized by GFP (in green) and DAPI (in blue and grey). (B) Flip-out clones overexpressing *UASct* marked with GFP and stained for Ct (red). Nucleus are marked with DAPI (blue and grey). (C, D) Flip-out clones co-overexpressing either (C) *UASbtl* and *UASct* or (D) *UAS-Tor-btl* and *UASct*. Note that in both cases the size of the clones increased. (E) Flip-out clones marked with GFP and DAPI (blue and grey) overexpressing either only *UASct^{RNAi}* or (D) *UAS-Tor-Btl* and *UASct^{RNAi}*. White lines delineate clone boundaries. Scale bars represent 50 μ m.



Supplementary Figure 6. Model depicting the spatial activation of Bnl/FGF signaling in adult progenitor cells. Bnl/FGF signaling is activated by the ligand Bnl specifically in Tr4 and Tr5 tracheal metamers. The different outcome of the activation of Bnl/FGF pathway, depending on the presence or absence of Ct allowing proliferation and endoreplication respectively, is also shown. In metameres Tr6 to Tr9 bnl is not present and therefore, Bnl/FGF signaling is not activated despite the presence of Ct. As a consequence, adult progenitor cells do not proliferate.