

sto-3 is expressed in R4BL/R and R8BL/R, male-specific ray neurons in *C. elegans*

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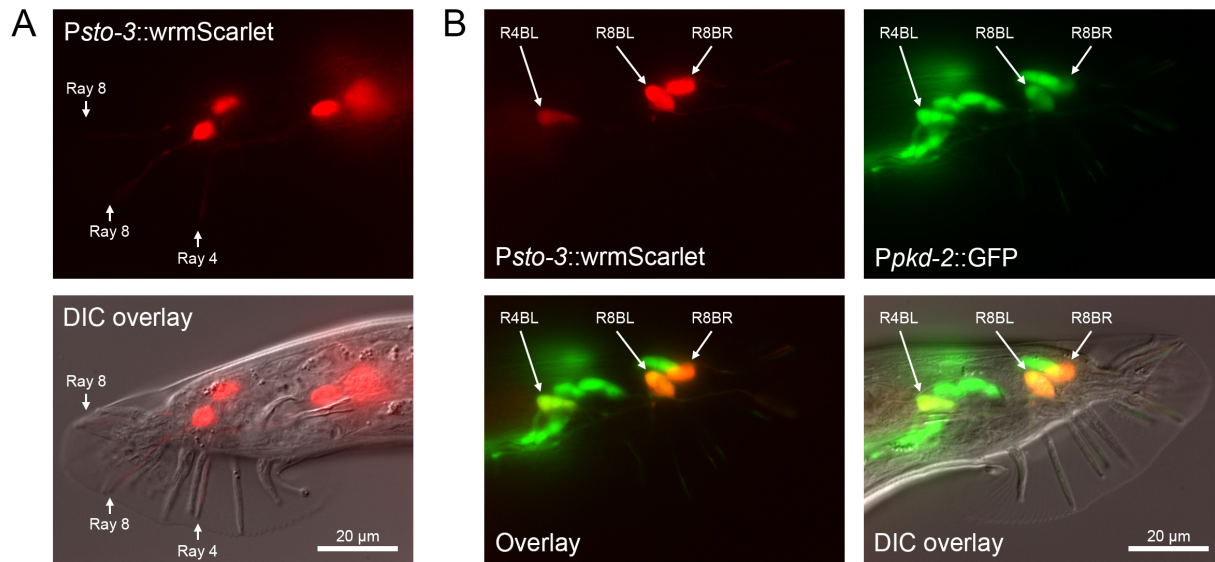


Figure 1 *Psto3::wrmScarlet* reporter is expressed in R4BL/R and R8BL/R ray neurons.

Description

In *C. elegans* hermaphrodites, *sto-3* promoter has been previously shown to drive gene expression in RIBL/R neurons and in three unidentified non-neuronal cells in the tail (Turek et al., 2016). (A) We have found that in *C. elegans* males, in addition to RIBL/R, two pairs of bilaterally-symmetrical tail neurons show strong *Psto3::wrmScarlet* expression (*wrmScarlet* is a codon-optimized version of mScarlet (El Mouridi et al., 2017)). These neurons send their processes to rays 4 and 8 of the male tail. In the figure, right lateral aspect is shown; arrows indicate rays containing processes expressing *Psto3::wrmScarlet*. (B) All rays in the male tail are innervated by A and B type neurons (Sulston et al., 1980). To identify which neuron type expresses the *sto-3* reporter, we have crossed *Psto3::wrmScarlet* transgenic males with a *Ppkd-2::GFP* reporter strain MT11318, which expresses GFP in the B-type neurons of rays 1-5, 7-9 and not in the A-type neurons (Barr and Sternberg, 1999). In the F1 cross-progeny males, which also carried the *ceh-30(n3714)* mutation in the background, *Psto3::wrmScarlet* expression is colocalized with *Ppkd-2::GFP* for both pairs of ray neurons expressing *Psto3::wrmScarlet*. This indicates that *sto-3* is expressed in the R4BL/R and R8BL/R ray neurons. Left lateral aspect; arrows point at the cell bodies of *Psto3::wrmScarlet*-expressing neurons.

Reagents

z/Ex898[Psto-3::wrmScarlet + lin-15(+)]; *lin-15* (n765ts) X. *Psto-3::wrmScarlet* transcriptional fusion. The plasmid was made by cloning 971 bp promoter region of *sto-3* into a *wrmScarlet-unc-54* 3'UTR vector with a pUC19 vector backbone.

Strains: QW1876.

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