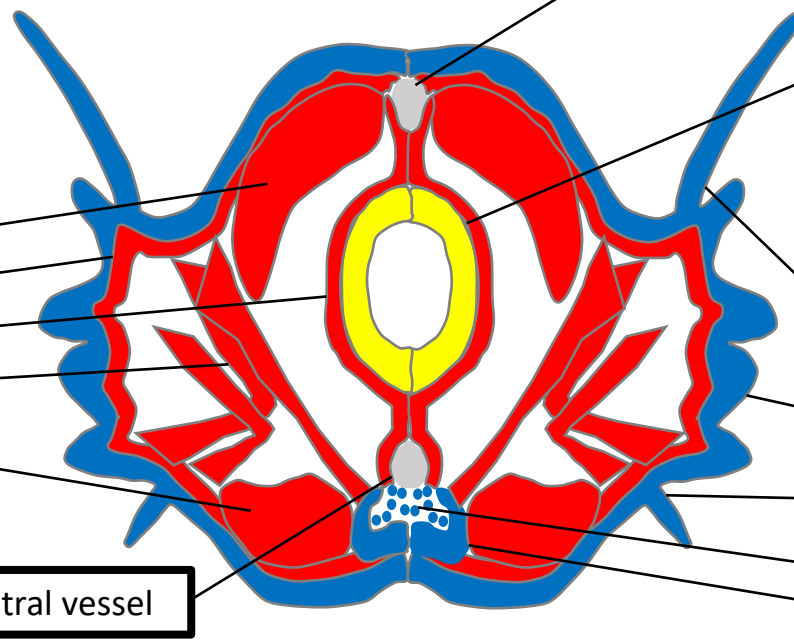
Supplementary data file 7, transgenic clones, part A

Description of the transverse section scheme used for the mapping of transgenic clones



Tissues of endodermal origin:
- internal layers of the gut

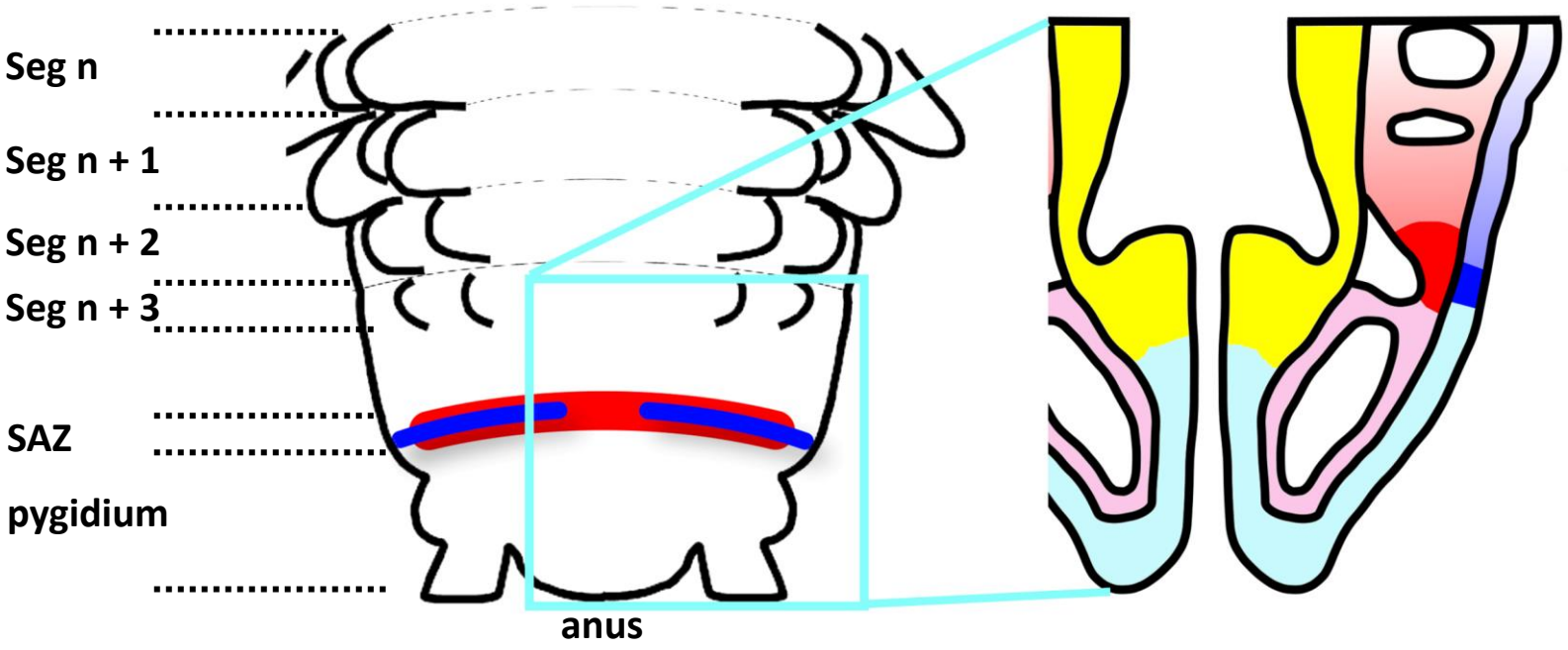
Tissues of mesodermal origin:
- dorsal longitudinal muscles
- somatopleura
- splanchnopleura
- transverse muscles
- ventral longitudinal muscles

Tissues of ectodermal origin:
- epidermis, epidermal glands
- sensory cirri
- chaetal sacs
- neuropil of the ventral nervous system
- ventral ganglia of the nervous system

Transgenic tissues are highlighted in the germ layer color code
Transgenic tissues displaying stochastic expression
Non fluorescent tissues (or slightly autofluorescent) are in grey

ectoderm mesoderm endoderm
ectoderm mesoderm endoderm

Schematic frontal section used showing the locations of putative posterior stem cells



Tissues of ectodermal origin:

- epidermis, epidermal glands
- ectodermal PSCs
- pygidial epidermis and hindgut

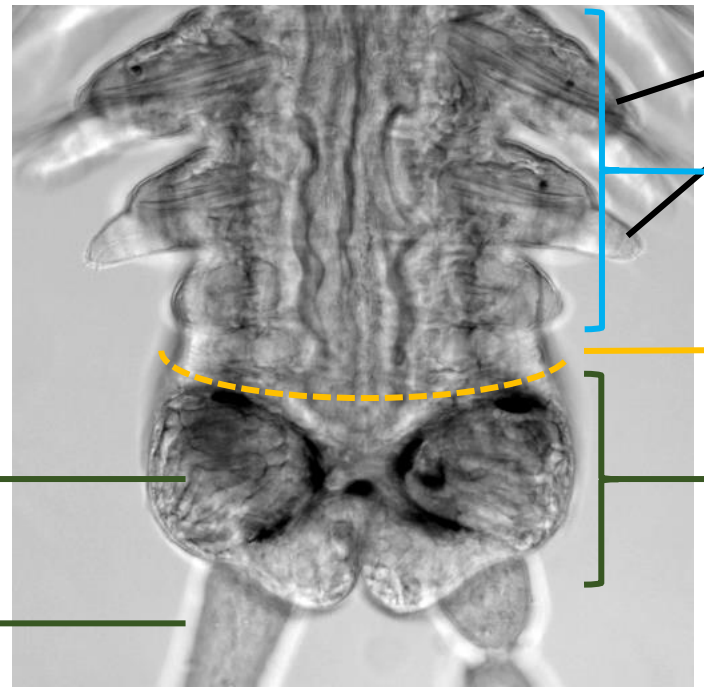
Tissues of mesodermal origin:

- coelothel, muscles
- mesodermal PSCs
- pygidial epidermis and hindgut

Tissues of endodermal origin:

- midgut

Description of transmitted light views valid for all confocal acquisitions



Nascent appendages

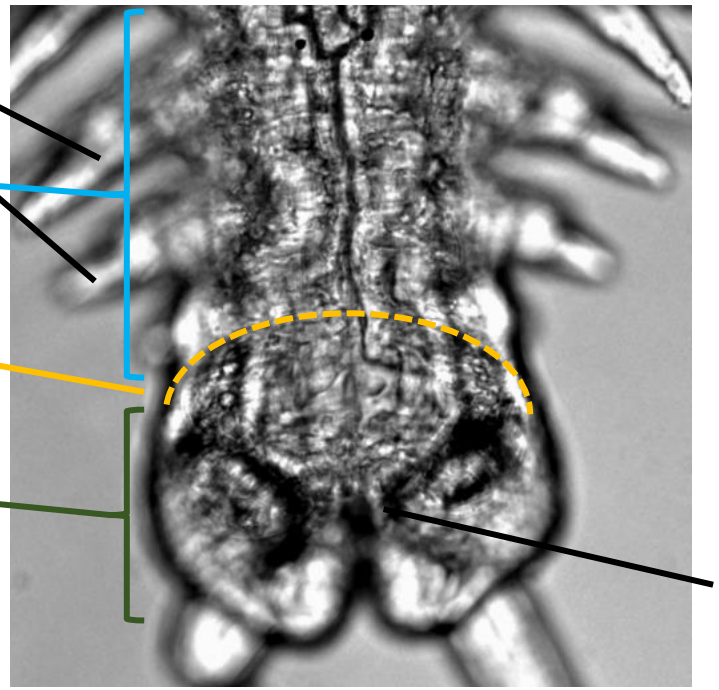
Nascent segments

Segment addition zone: location of pPSCs

Pygidium

Pygidial gland

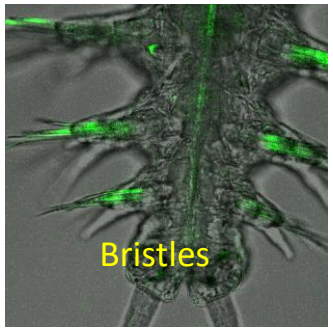
Pygidial cirrus

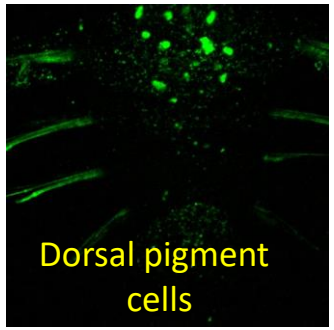


Anus

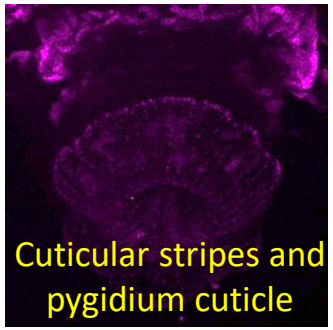
Ventral view

Dorsal view





Non-specific fluorescent signals



Supplementary data file 7, transgenic clones, part B

M01

membranes
nuclei

Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

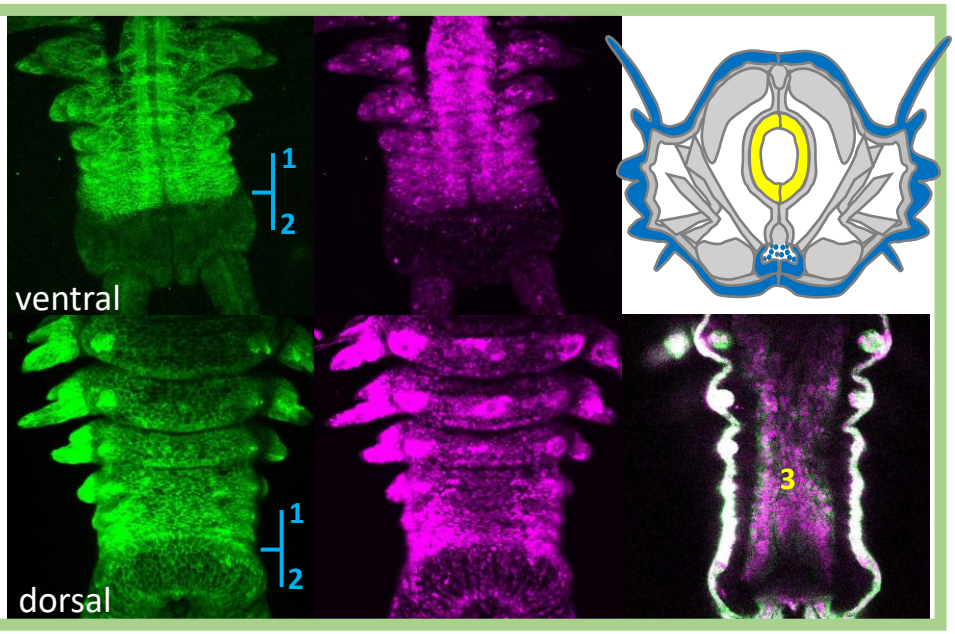
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL
(no regeneration)

No data

Accidentally amputated before 6 weeks

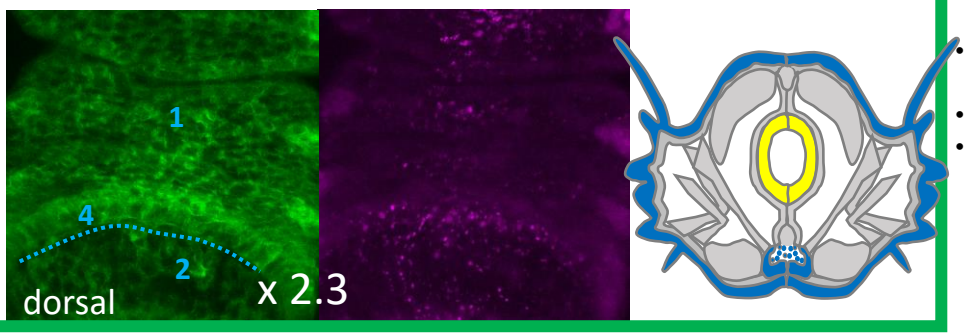
After 1st amputation-regeneration



- Segmental ectoderm 1
- Pygidium ectoderm, weak 2
- Gut endoderm 3

After 2nd amputation-regeneration

No ventral view



- Segmental ectoderm 1
- Pygidium ectoderm, weaker 2
- Ectodermal PSCs? 4
- Gut endoderm

membranes
nuclei

M03

Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

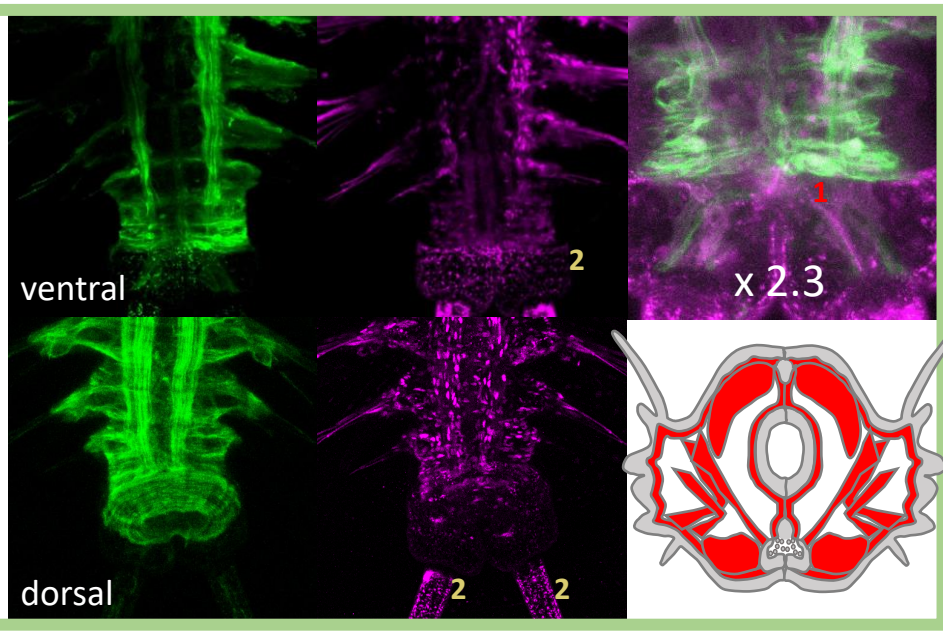
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)

No data

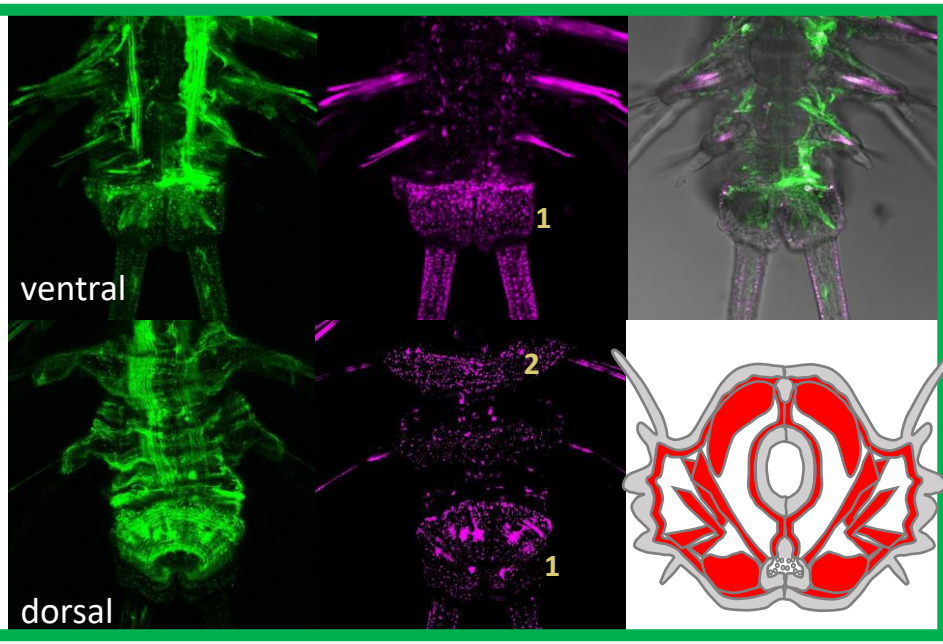
Accidentally amputated before 6 weeks

After 1st amputation-regeneration



- Whole mesoderm, stronger on left side
- Mesodermal PSCs ? 1
- Autofluorescent cuticle in pygidium 2

After 2nd amputation-regeneration



- Whole mesoderm, stronger on left side
- Autofluorescent cuticle in pygidium 1 and segment 2

membranes
nuclei

M05

Full Z-projections

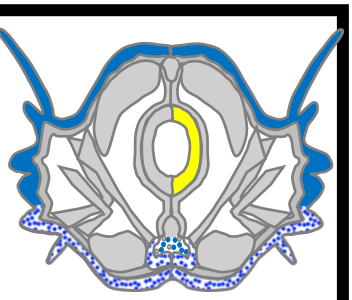
Frontal section
+ transverse scheme

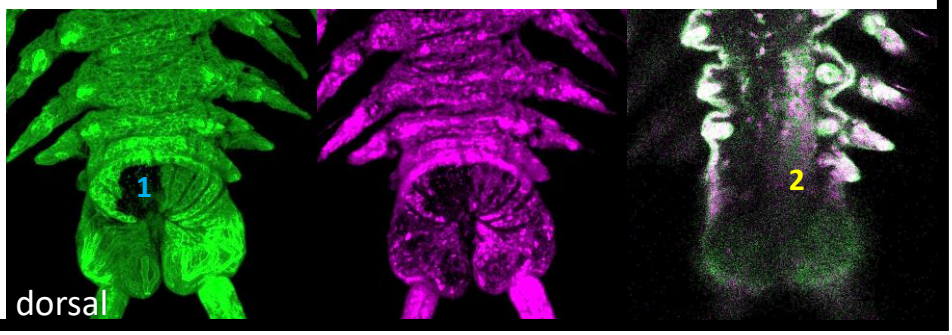
Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)

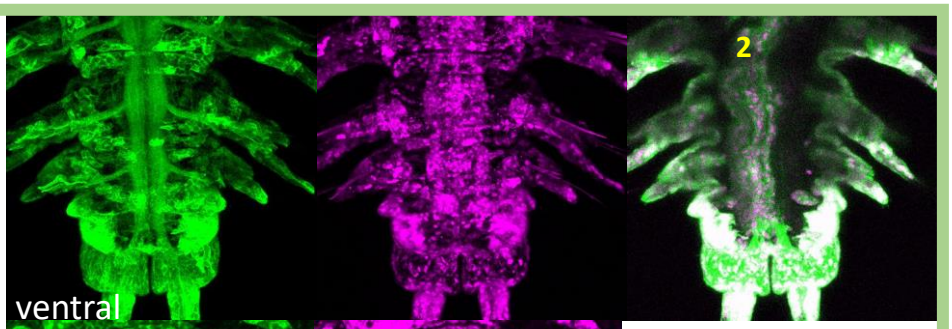
No ventral view

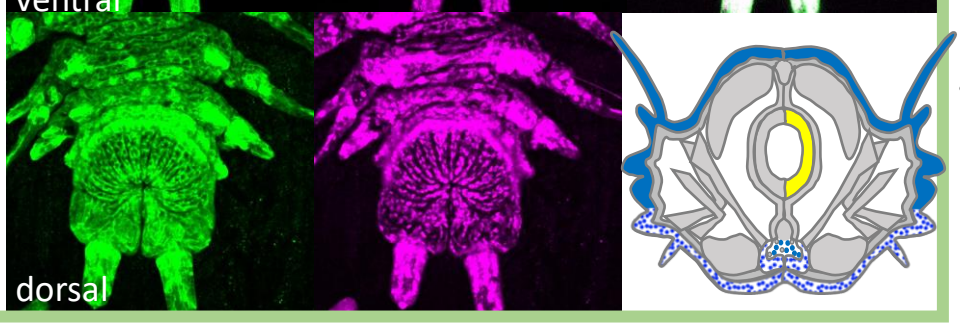




- Segmental ectoderm
- Pygidium ectoderm with a missing clone on the left 1
- Right endoderm 2
- A few unidentified internal cells on the left

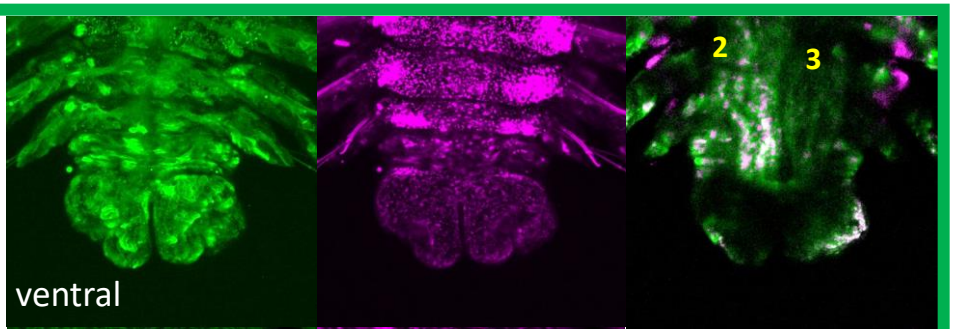
After 1st amputation-regeneration

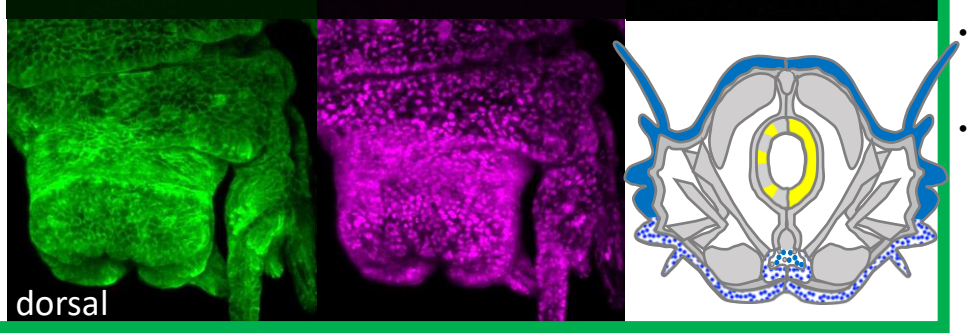




- Segmental ectoderm patchy on the ventral side
- Pygidium ectoderm patchy on the ventral side
- Right endoderm 2

After 2nd amputation-regeneration





- Segmental ectoderm patchy on the ventral side
- Pygidium ectoderm patchy on the ventral side
- Right endoderm 2 + patches on the left side 3

membranes
nuclei

M07

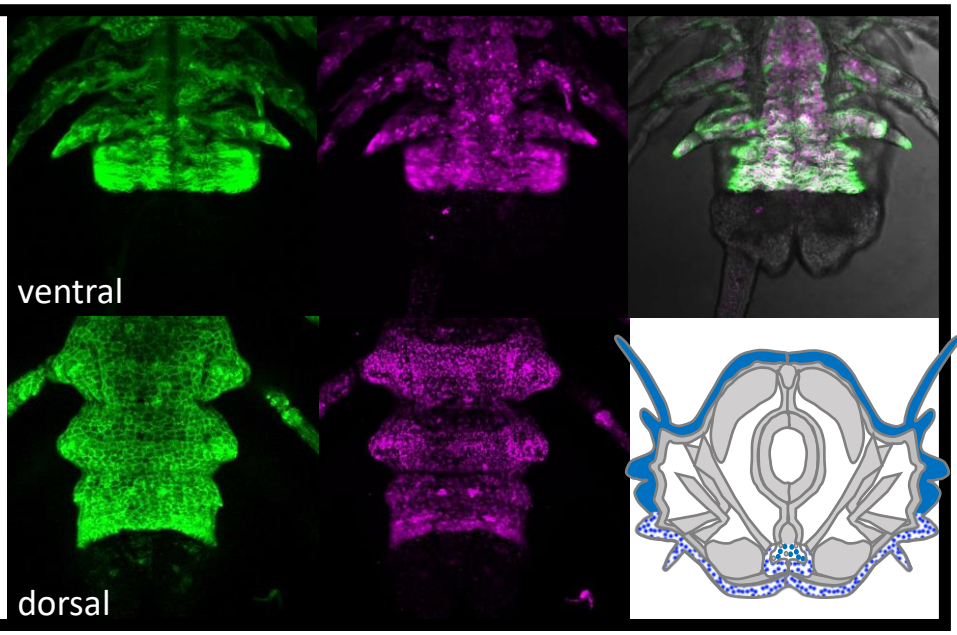
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

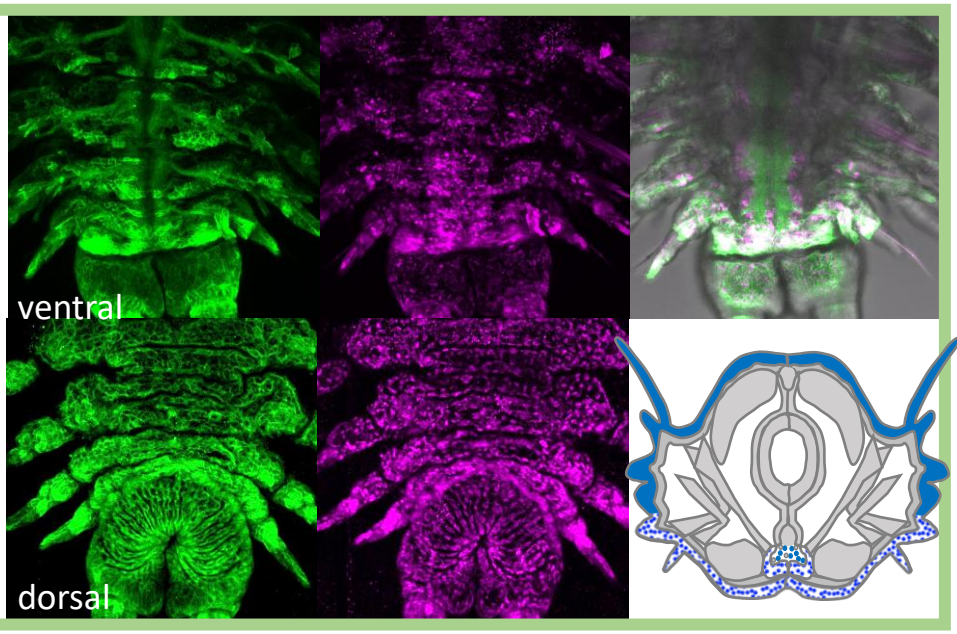
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



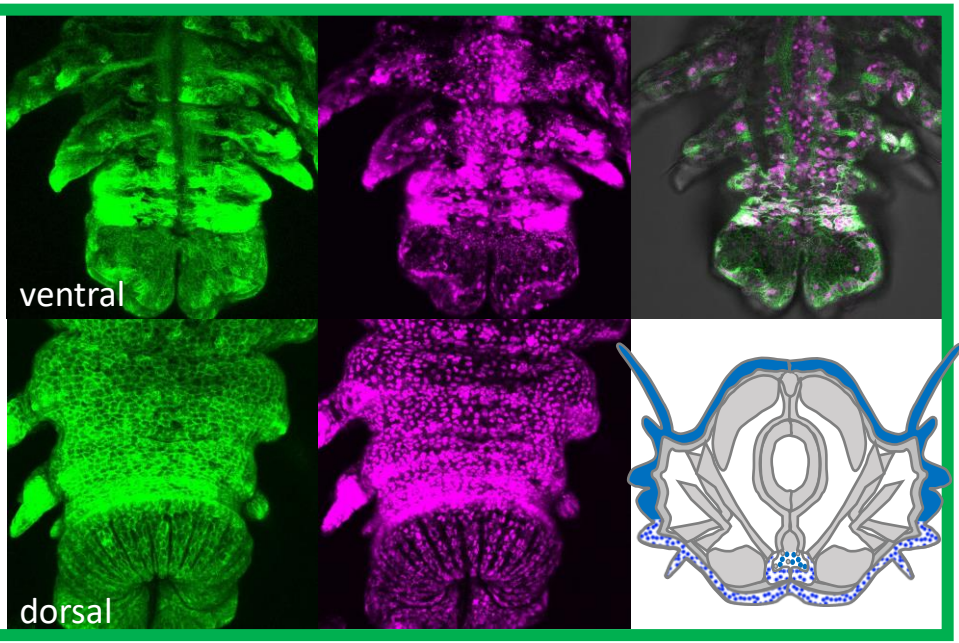
- Segmental ectoderm patchy on the ventral side
- pygidial ectoderm not transgenic

After 1st amputation-regeneration



- Segmental ectoderm patchy on the ventral side
- Pygidium ectoderm patchy on the ventral side

After 2nd amputation-regeneration



- Segmental ectoderm patchy on the ventral side
- Pygidium ectoderm patchy on the ventral side

membranes
nuclei

M08

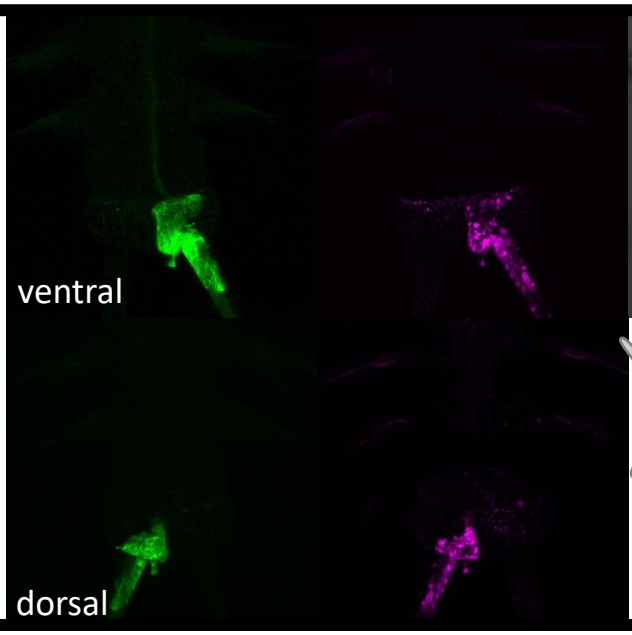
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

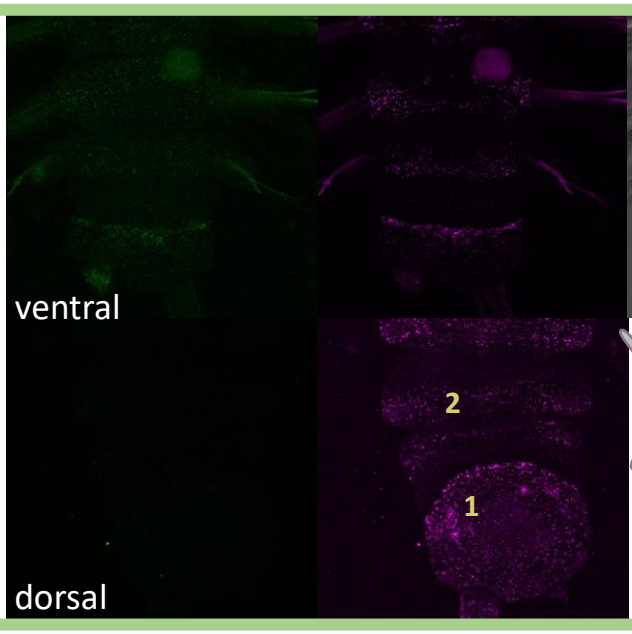
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



- Pygidial ectoderm left side

After 1st amputation-regeneration



- Autofluorescent cuticle in pygidium 1 and segment 2

After 2nd amputation-regeneration

membranes
nuclei

M09

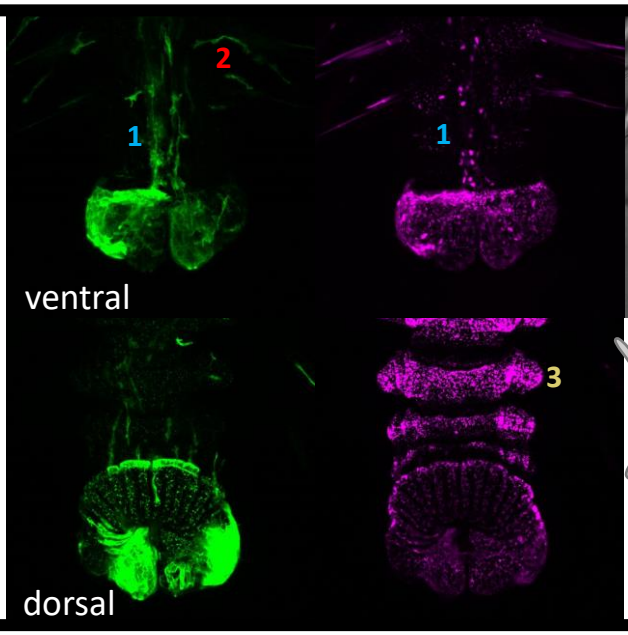
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

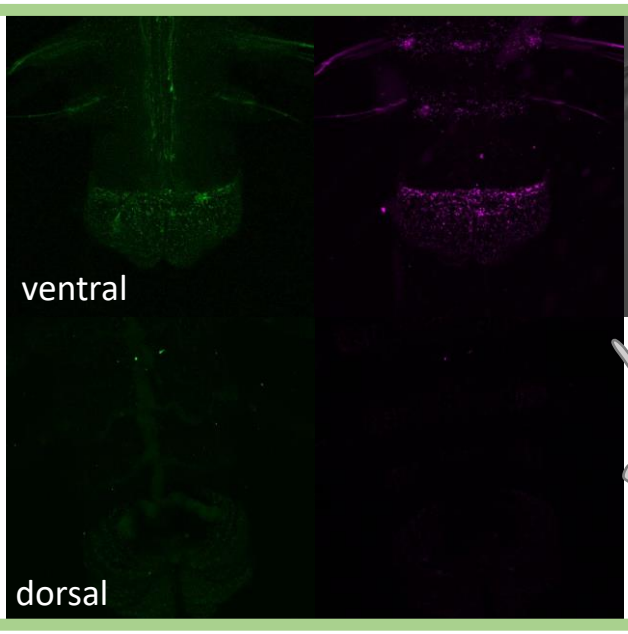
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



- Pygidium ectoderm, partial
- Right median neural lineage 1
- Few amoeboid cells in segments 2
- Autofluorescent cuticle (dorsal) 3

After 1st amputation-regeneration



- Brain neurites

After 2nd amputation-regeneration

membranes
nuclei

M10

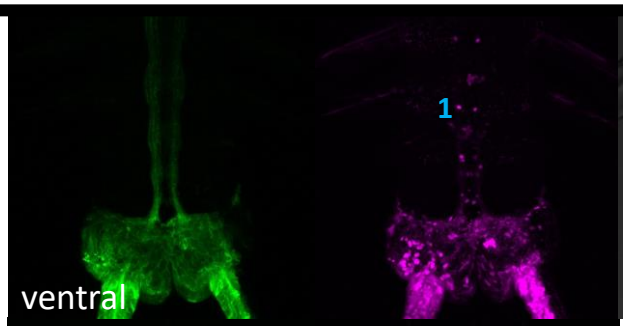
Full Z-projections

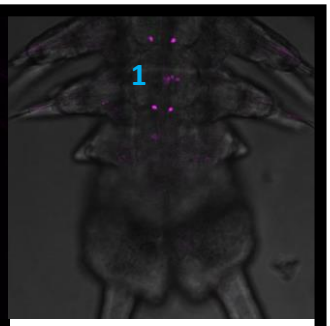
Frontal section
+ transverse scheme

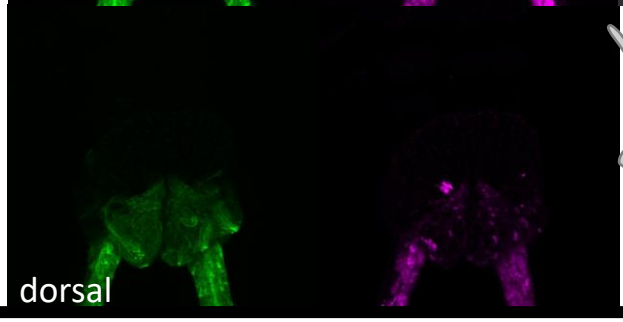
Transgenic tissues :

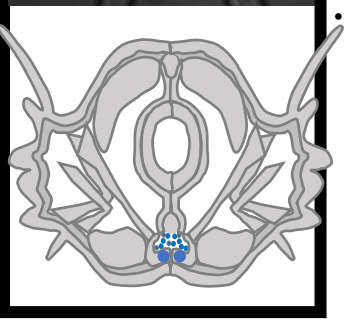
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



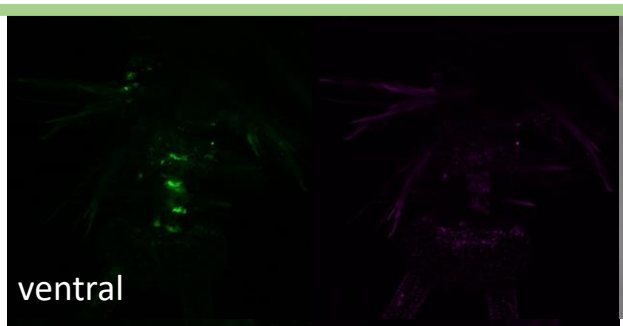


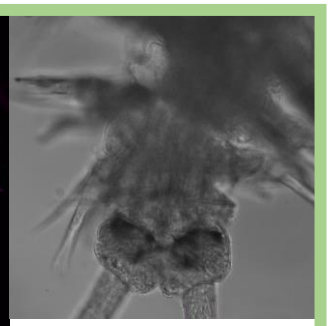


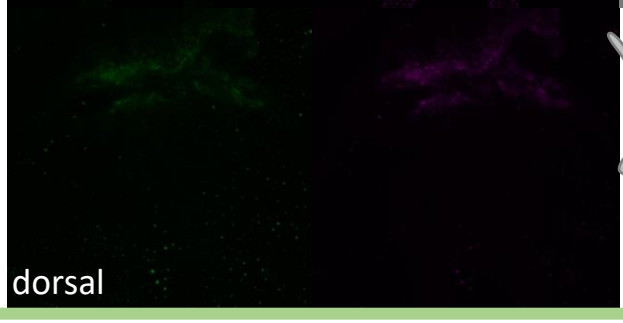


- Pygidium ectoderm
- Median neural lineage 1

After 1st amputation-regeneration







- Autofluorescent cuticle in segments

After 2nd amputation-regeneration

membranes
nuclei

M11

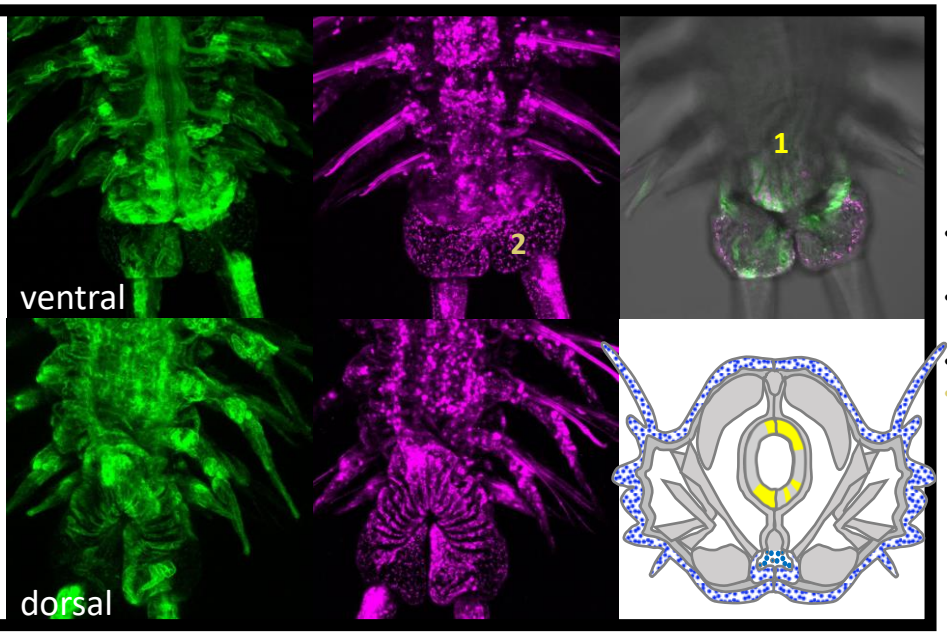
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

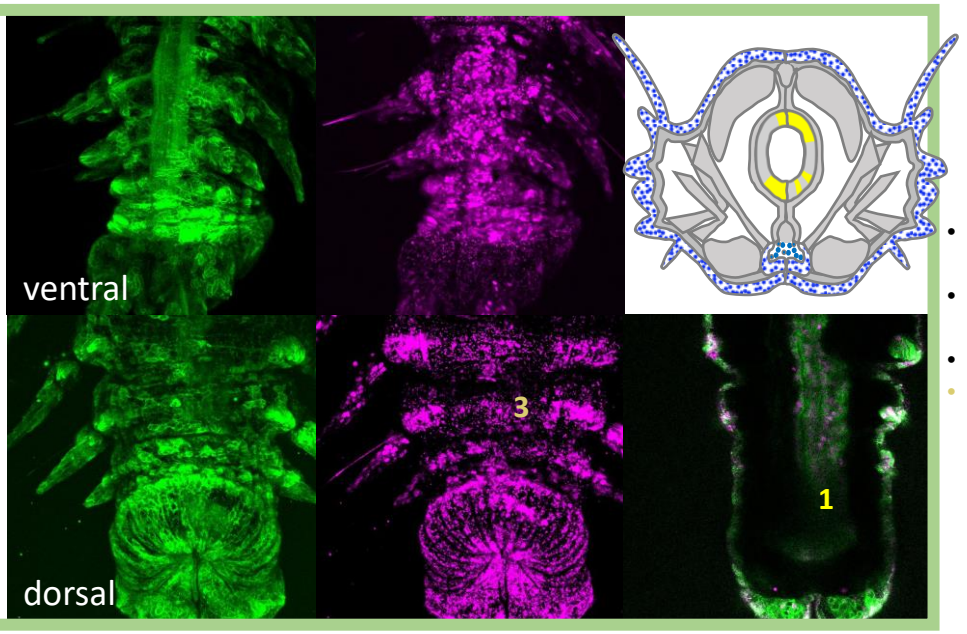
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



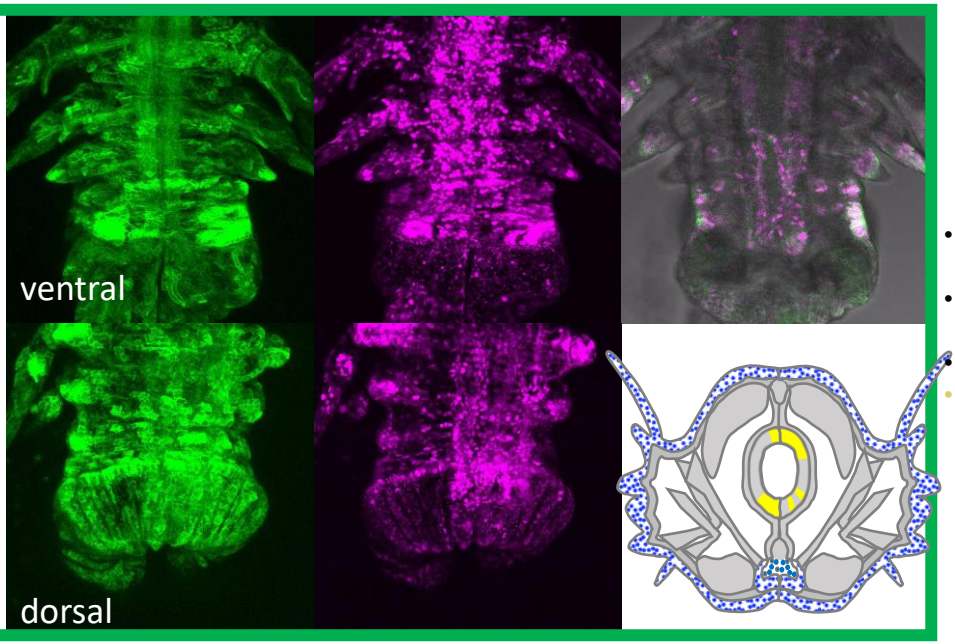
- Segmental ectoderm, variegated
- Pygidium ectoderm, partial
- Endoderm, partial 1
- Autofluorescent cuticle in pygidium 2

After 1st amputation-regeneration



- Segmental ectoderm, variegated
- Pygidium ectoderm, variegated
- Endoderm, partial 1
- Autofluorescent cuticle in segments 3

After 2nd amputation-regeneration



- Segmental ectoderm, variegated
- Pygidium ectoderm, variegated
- Endoderm, partial 1
- Autofluorescent cuticle in segments 3

membranes
nuclei

M15

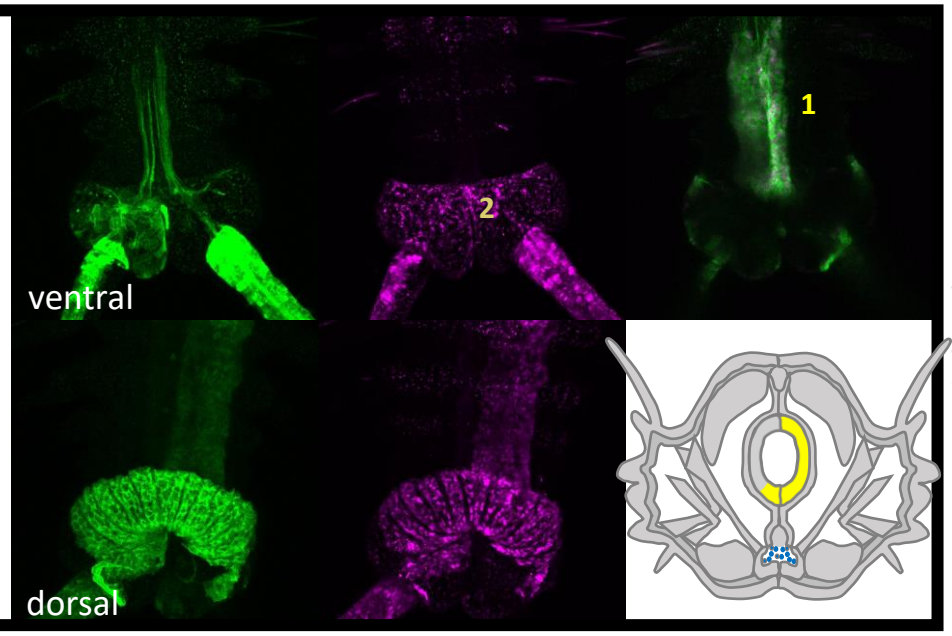
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

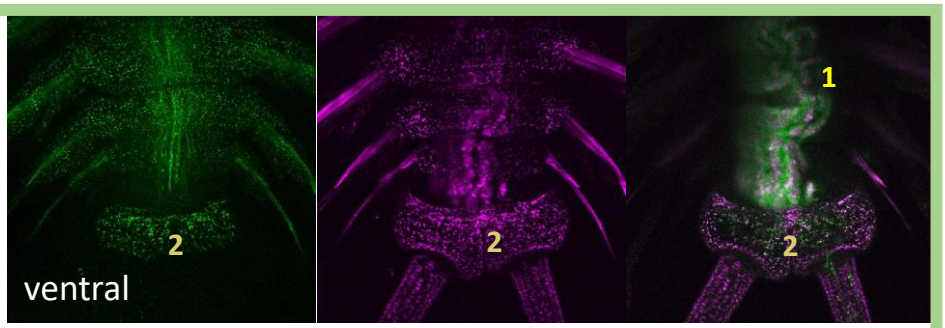
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



- Pygidium ectoderm, partial
- Endoderm partial 1
- Autofluorescent cuticle in pygidium 2

After 1st amputation-regeneration



No dorsal view

- Endoderm partial 1
- Autofluorescent cuticle in pygidium 2

After 2nd amputation-regeneration

membranes
nuclei

M18

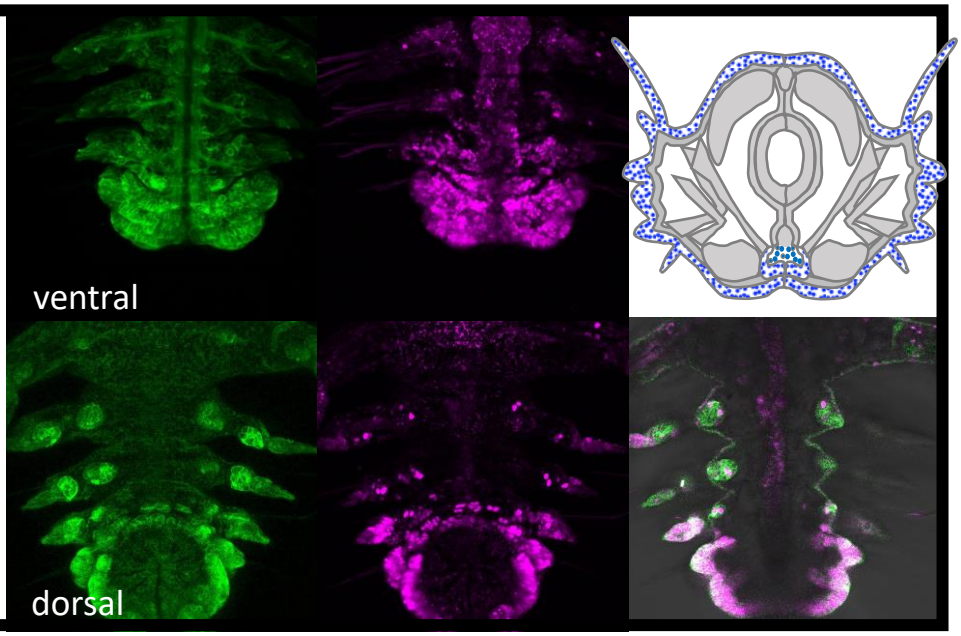
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



- Segmental ectoderm, variegated
- Pygidium ectoderm, partial, variegated

After 1st amputation-regeneration

After 2nd amputation-regeneration

membranes
nuclei

M19

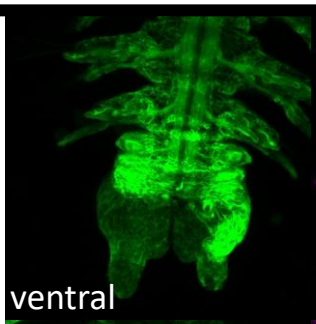
Full Z-projections

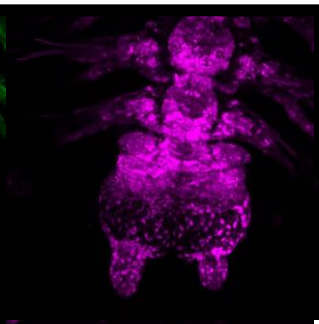
Frontal section
+ transverse scheme

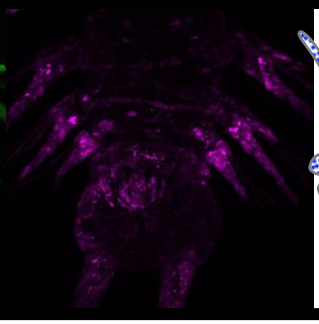
Transgenic tissues :

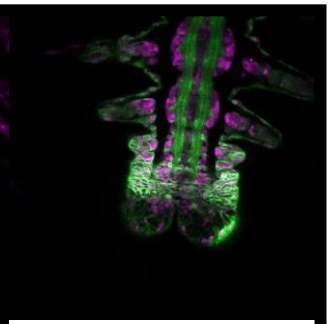
- ectoderm
- mesoderm
- endoderm

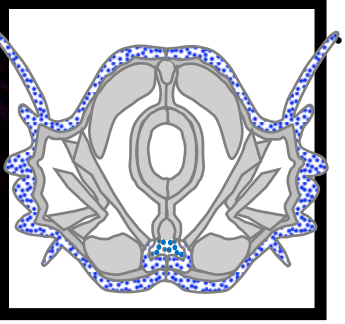
ORIGINAL TAIL (no regeneration)







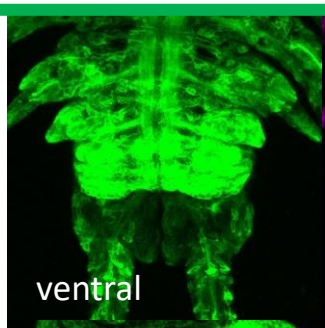


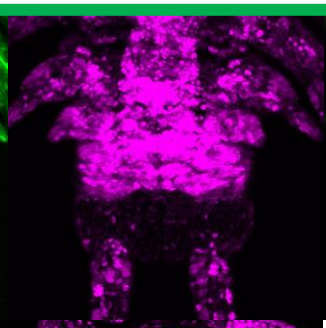


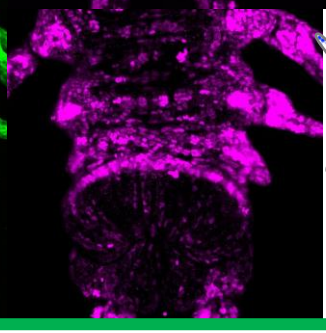
- Segmental ectoderm, variegated
- Pygidium ectoderm, partial

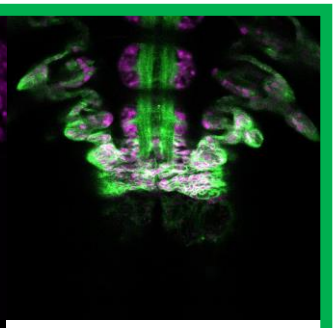
After 1st amputation-regeneration

After 2nd amputation-regeneration









- Segmental ectoderm, variegated
- Pygidium ectoderm, variegated

membranes
nuclei

M20

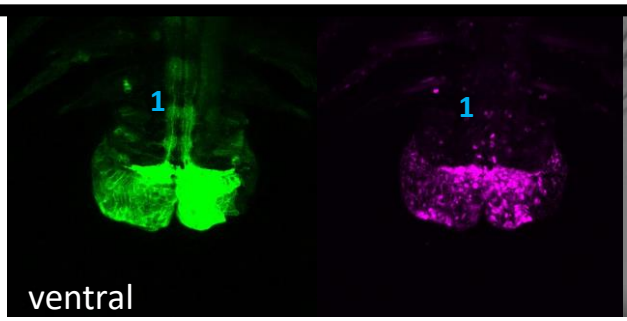
Full Z-projections

Frontal section
+ transverse scheme

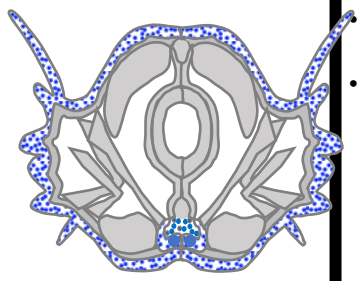
Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



No dorsal view



- Segmental ectoderm, variegated, weak
- Pygidium ectoderm, partial
- Median neural lineage 1

After 1st amputation-regeneration

After 2nd amputation-regeneration

membranes
nuclei

M21

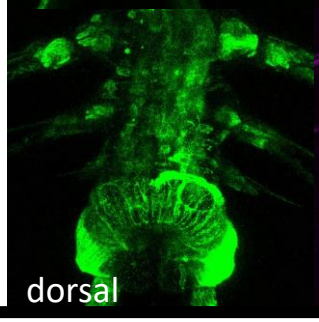
Full Z-projections

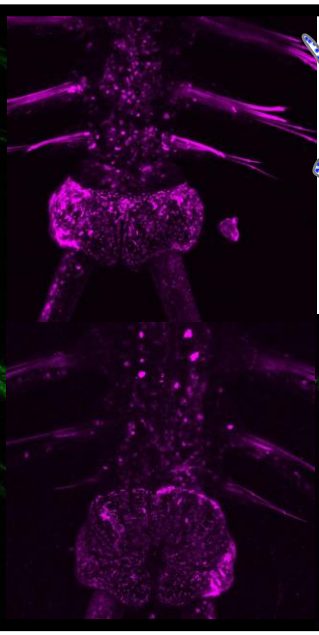
Frontal section
+ transverse scheme

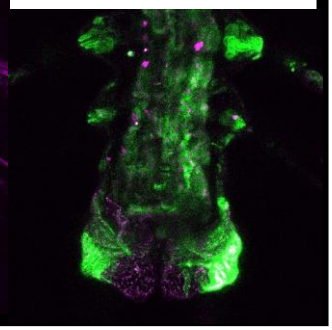
Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)

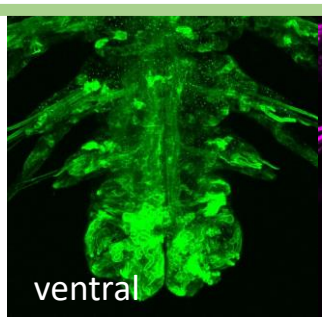


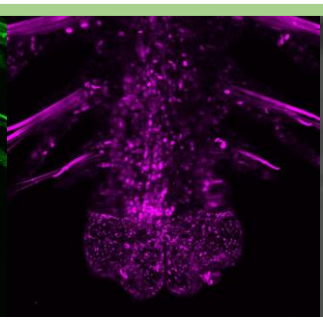


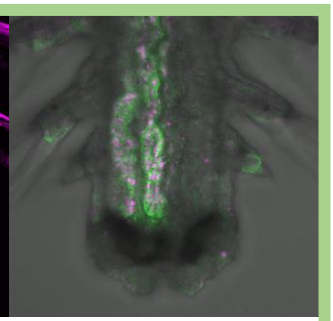


- Segmental ectoderm, variegated, weak
- Pygidium ectoderm, partial
- Gut endoderm, variegated

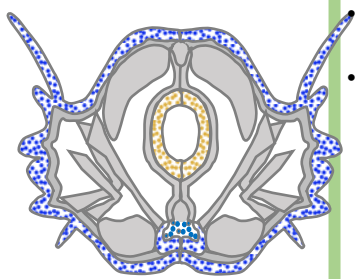
After 1st amputation-regeneration







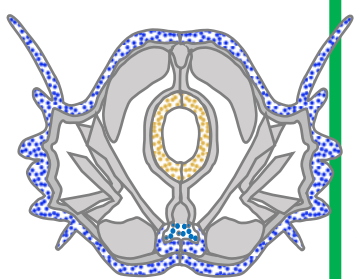
No dorsal view

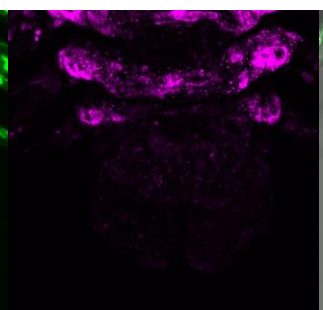


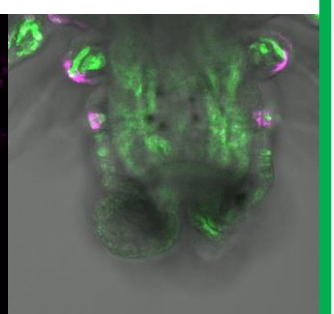
- Segmental ectoderm, variegated
- Pygidium ectoderm, variegated
- Gut endoderm, variegated

After 2nd amputation-regeneration

No ventral view







- Segmental ectoderm, variegated
- Pygidium ectoderm, variegated
- Gut endoderm, variegated

membranes
nuclei

M22

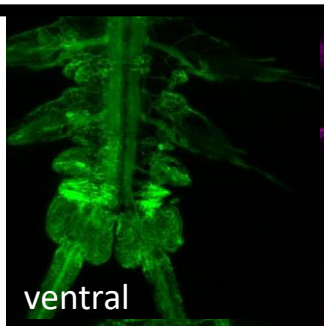
Full Z-projections

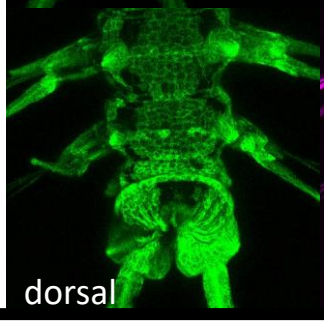
Frontal section
+ transverse scheme

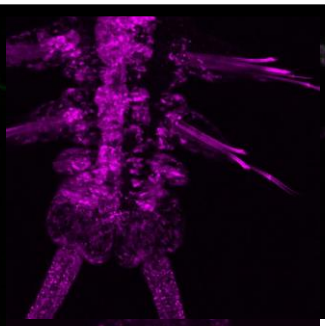
Transgenic tissues :

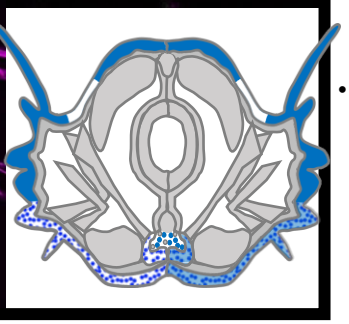
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



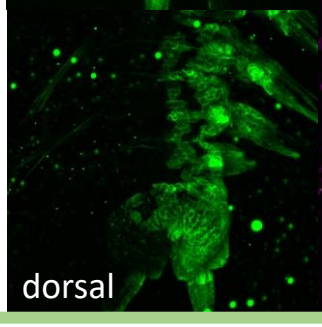


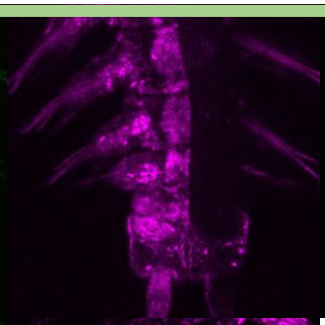


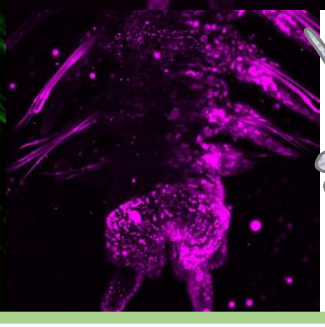


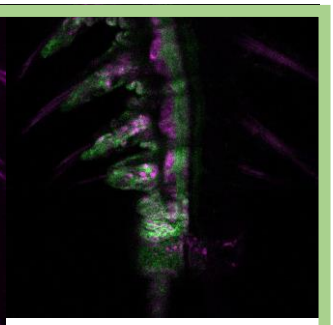
- Segmental ectoderm, variegated ventrally, partial dorsally
- Pygidium ectoderm, partial

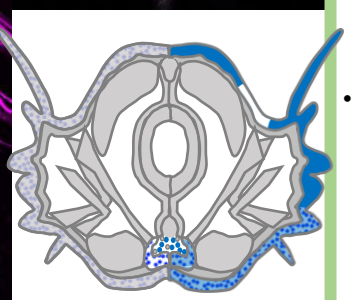
After 1st amputation-regeneration











- Segmental ectoderm, partial and variegated, right side, very weak, left side
- Pygidium ectoderm, partial and variegated

After 2nd amputation-regeneration

membranes
nuclei

M23

Full Z-projections

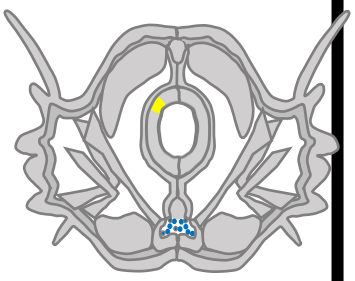
Frontal section
+ transverse scheme

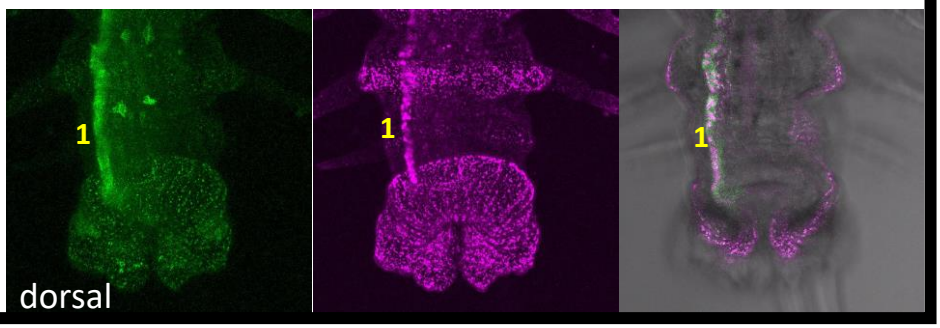
Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL
(no regeneration)

No ventral view





- Gut endoderm, partial
  1

After 1st amputation-
regeneration

After 2nd amputation-
regeneration

membranes
nuclei

M24

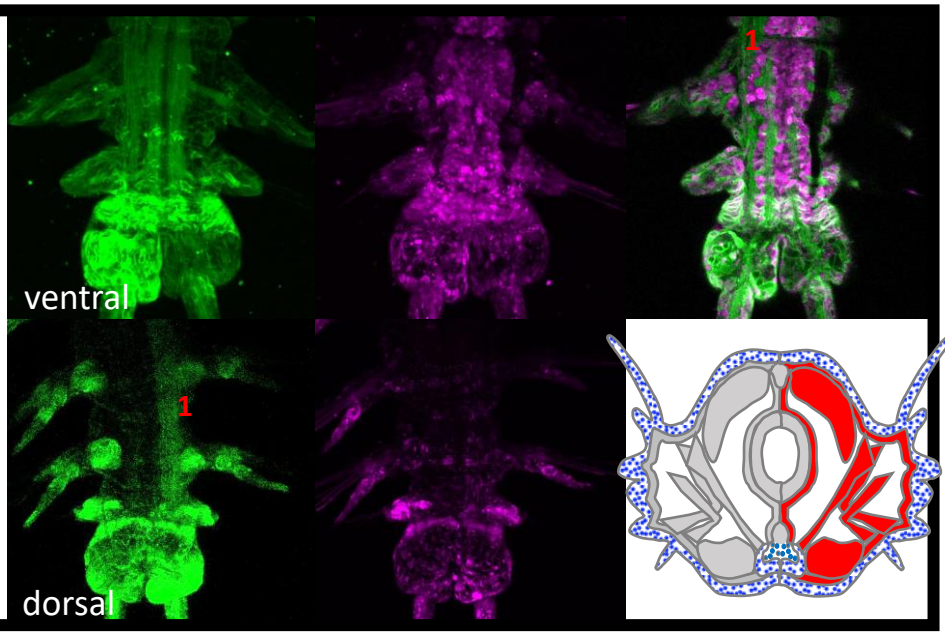
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

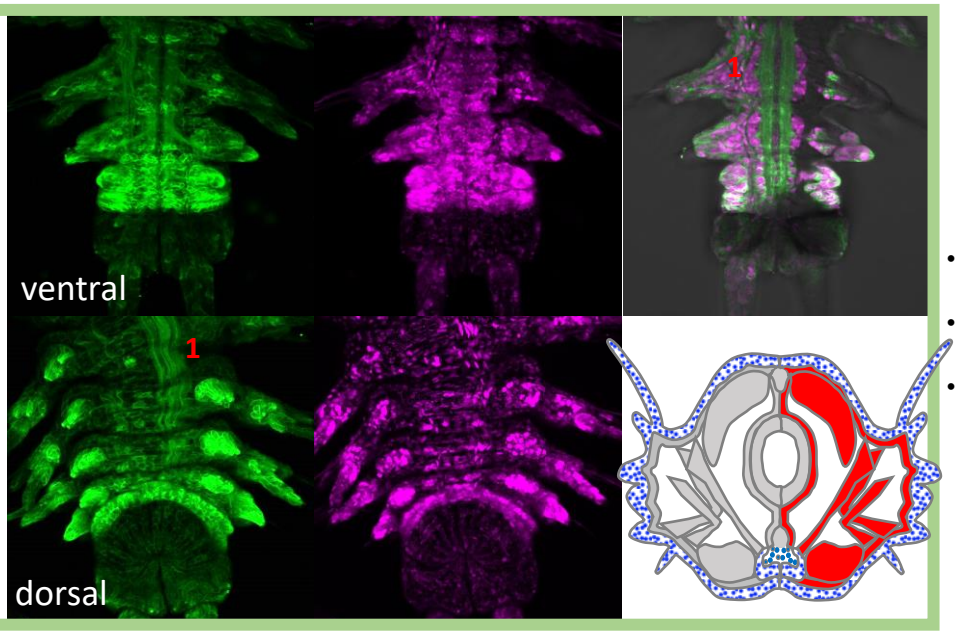
ORIGINAL TAIL (no regeneration)



- Pygidium ectoderm, stronger on right side
- Segmental ectoderm, variegated
- Right side mesoderm

1

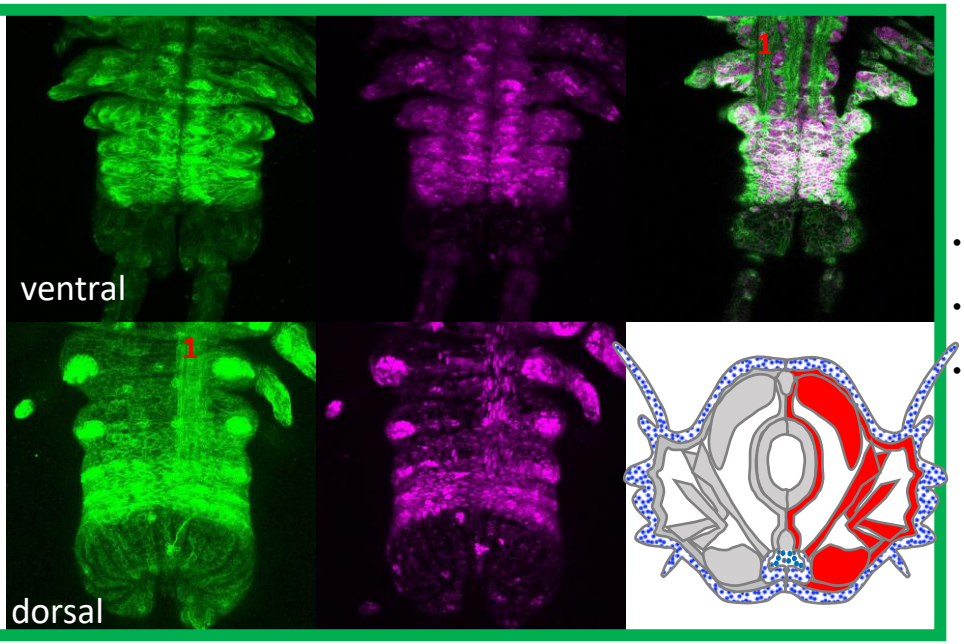
After 1st amputation-regeneration



- Pygidium ectoderm, weak
- Segmental ectoderm, variegated
- Right side mesoderm

1

After 2nd amputation-regeneration



- Pygidium ectoderm, weak
- Segmental ectoderm, variegated
- Right side mesoderm

1

membranes
nuclei

M26

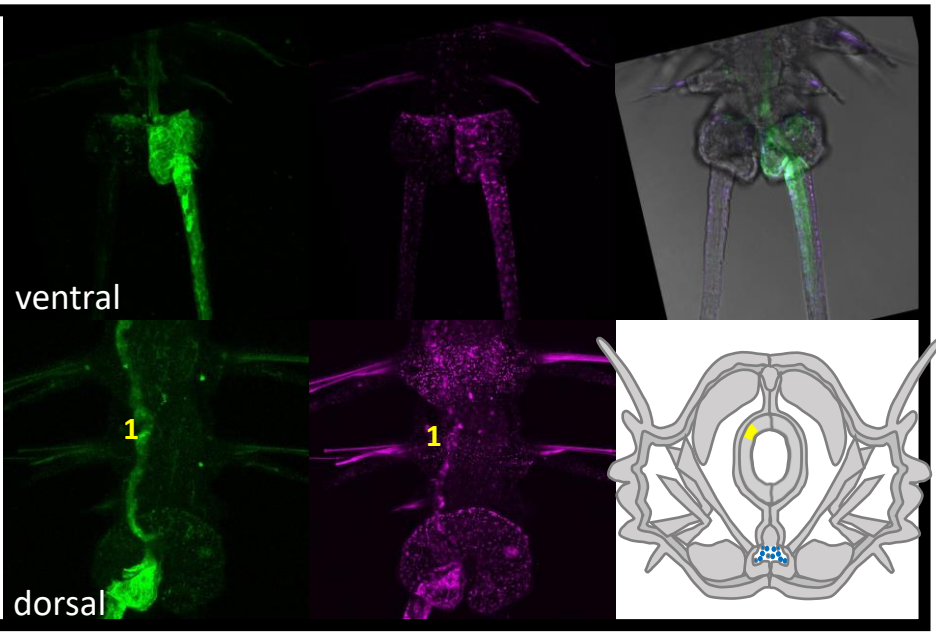
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

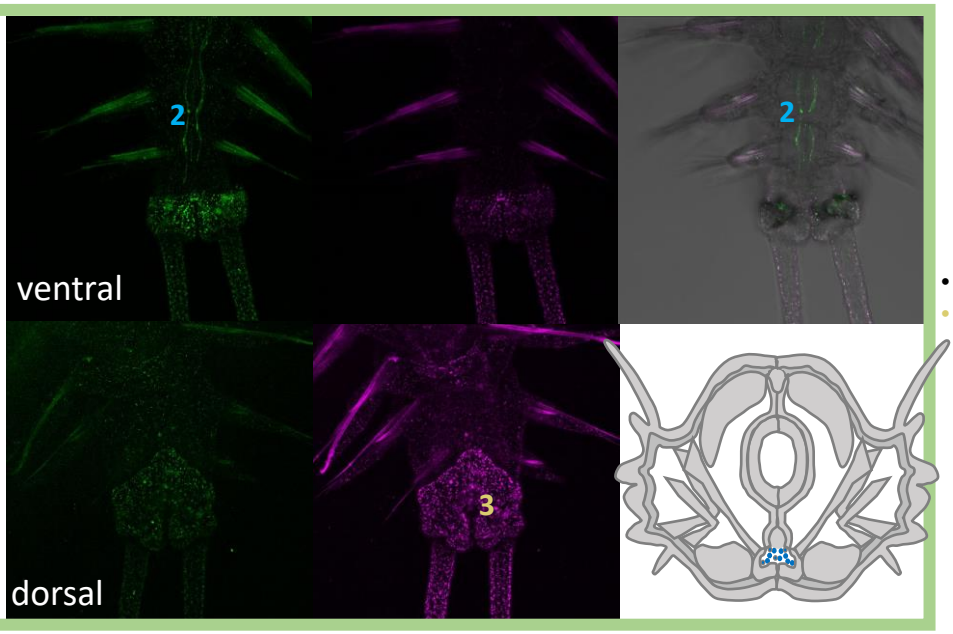
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



- Pygidium ectoderm , partial
- Gut endoderm, partial 1

After 1st amputation-regeneration



- Brain nerves 2
- Autofluorescent cuticle in pygidium 3

After 2nd amputation-regeneration

membranes
nuclei

M27

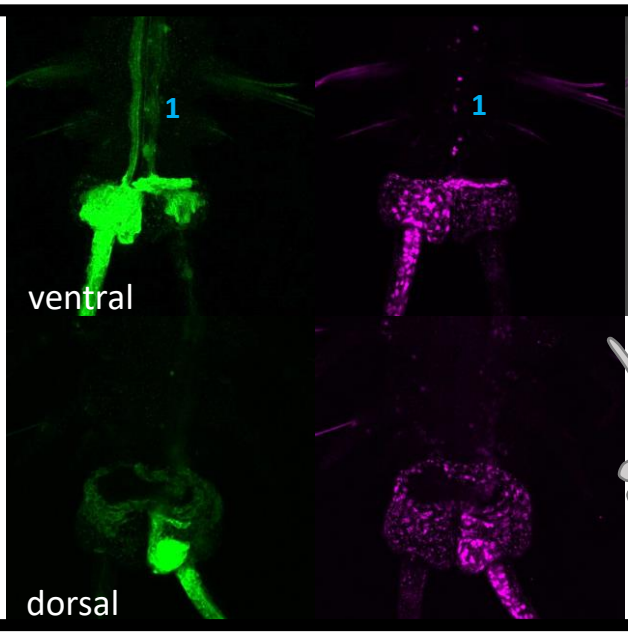
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

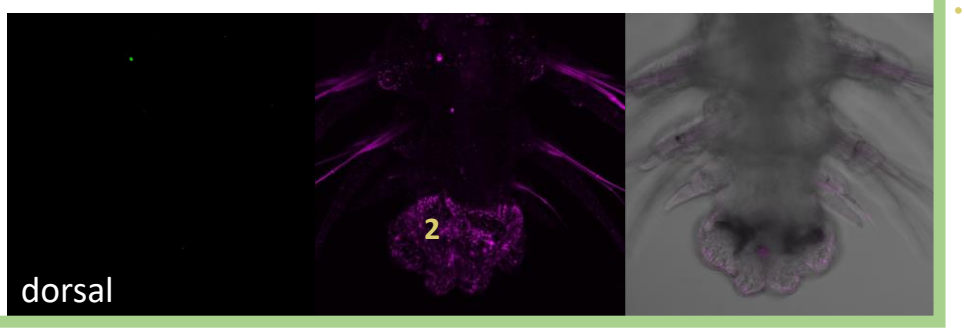
ORIGINAL TAIL (no regeneration)



- Pygidium ectoderm, partial
- Median neural lineage, left side 1

After 1st amputation-regeneration

No ventral view



- Autofluorescent cuticle in pygidium 2

After 2nd amputation-regeneration

membranes
nuclei

M28

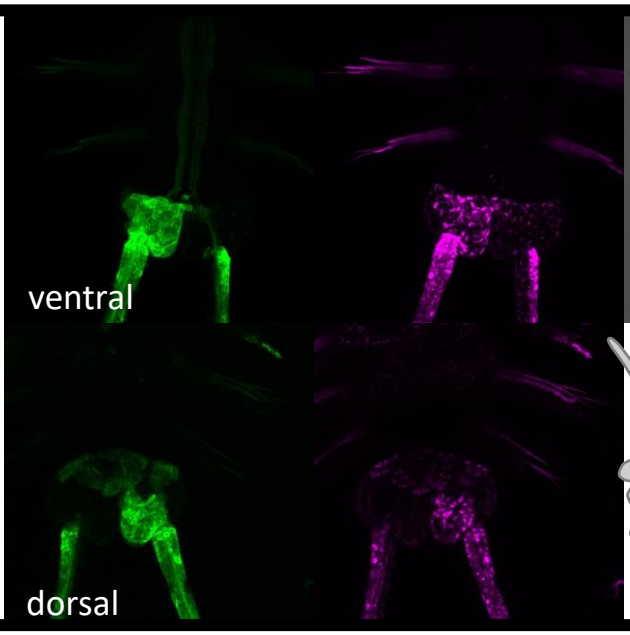
Full Z-projections

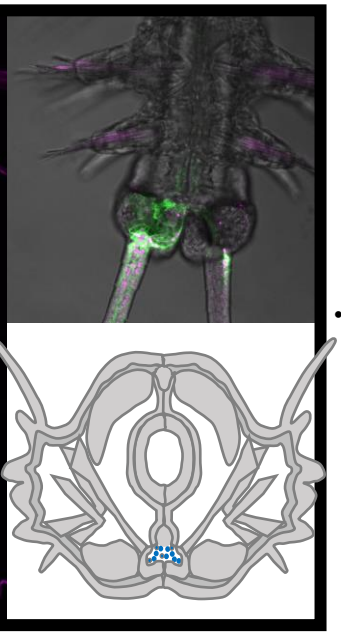
Frontal section
+ transverse scheme

Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

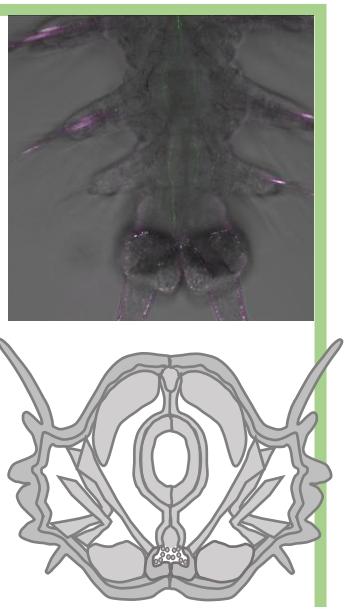
ORIGINAL TAIL
(no regeneration)





- Pygidium ectoderm, partial

After 1st amputation-regeneration



After 2nd amputation-regeneration

membranes
nuclei

M29

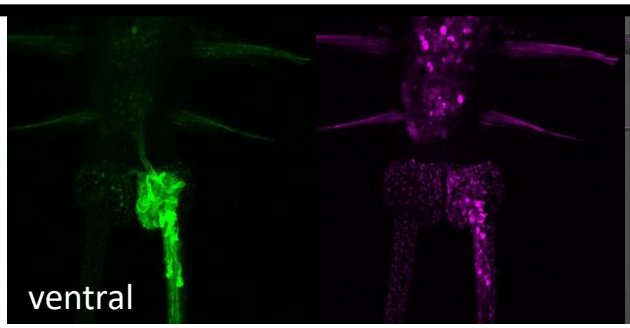
Full Z-projections

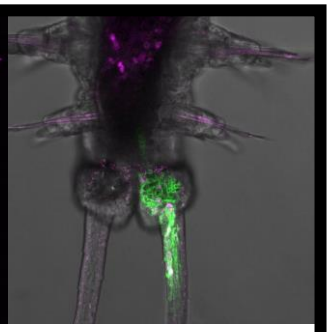
Frontal section
+ transverse scheme

Transgenic tissues :

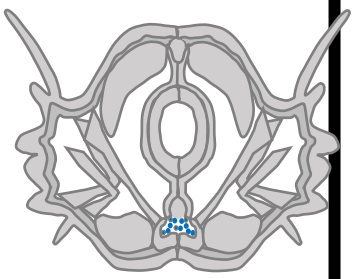
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



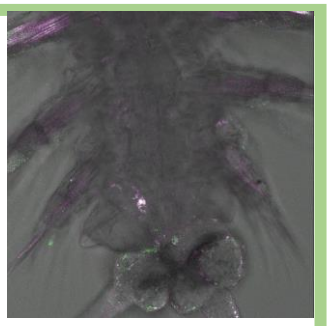


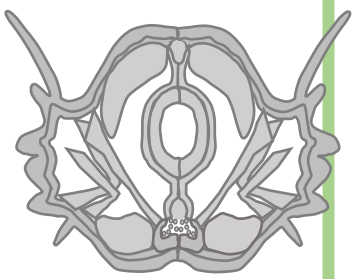
No dorsal view



- Pygidium ectoderm, partial

After 1st amputation-regeneration





After 2nd amputation-regeneration

membranes
nuclei

M30

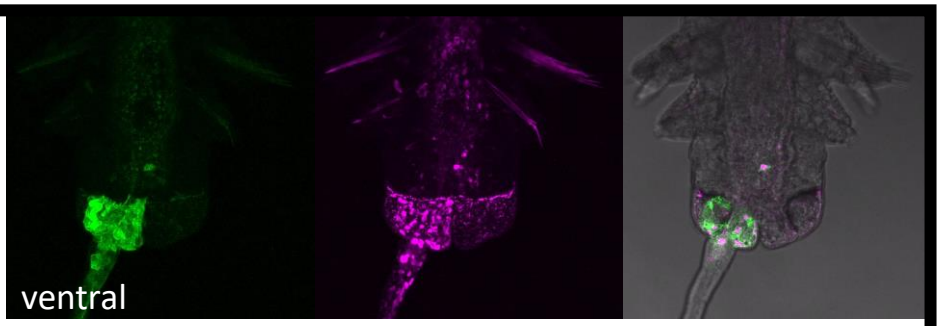
Full Z-projections

Frontal section
+ transverse scheme

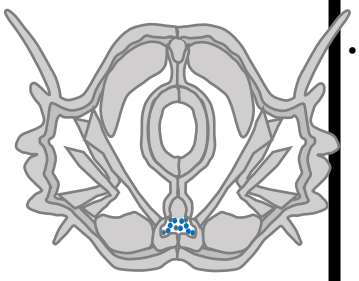
Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



No dorsal view



- Pygidium ectoderm, partial
- Gut endoderm, variegated

After 1st amputation-regeneration

After 2nd amputation-regeneration

membranes
nuclei

N01

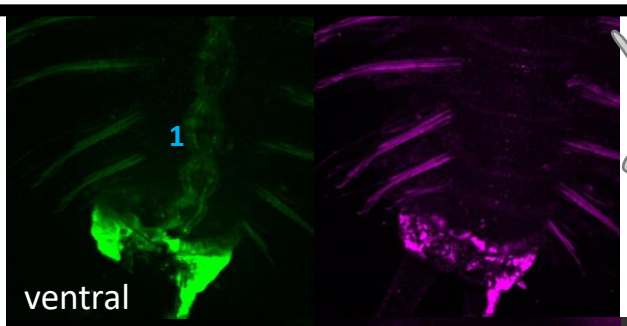
Full Z-projections

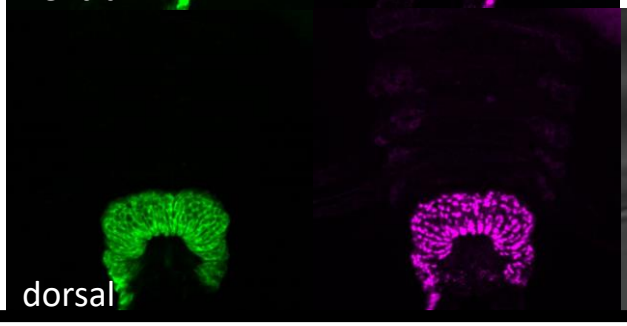
Frontal section
+ transverse scheme

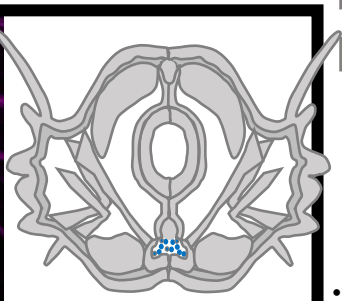
Transgenic tissues :

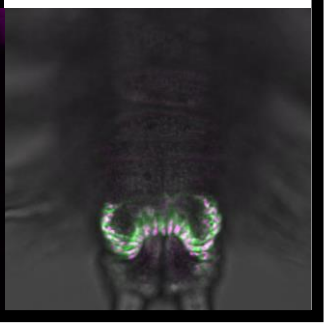
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)





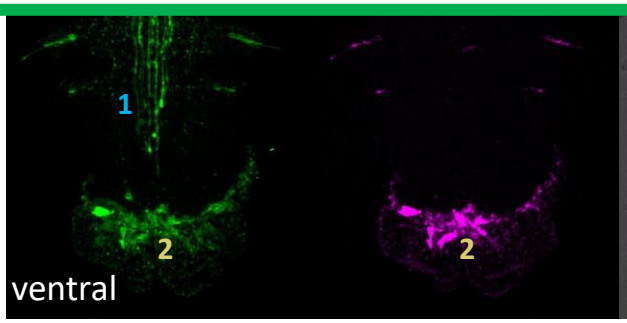


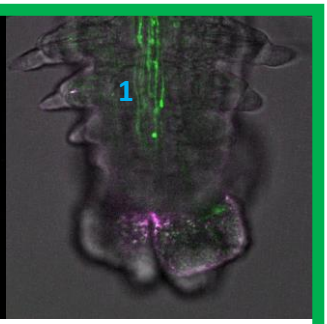


- Pygidium ectoderm, partial
- Brain neurites 1

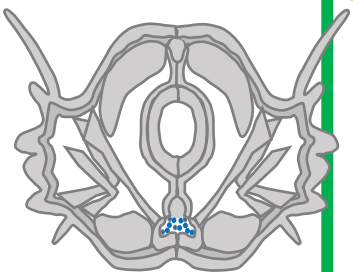
After 1st amputation-regeneration

After 2nd amputation-regeneration





No dorsal view



- Brain neurites
- Autofluorescent cuticle in pygidium 2

membranes
nuclei

N02

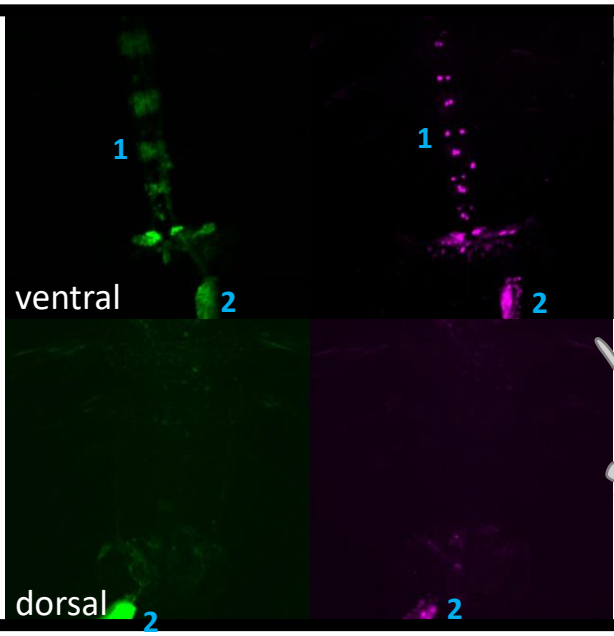
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

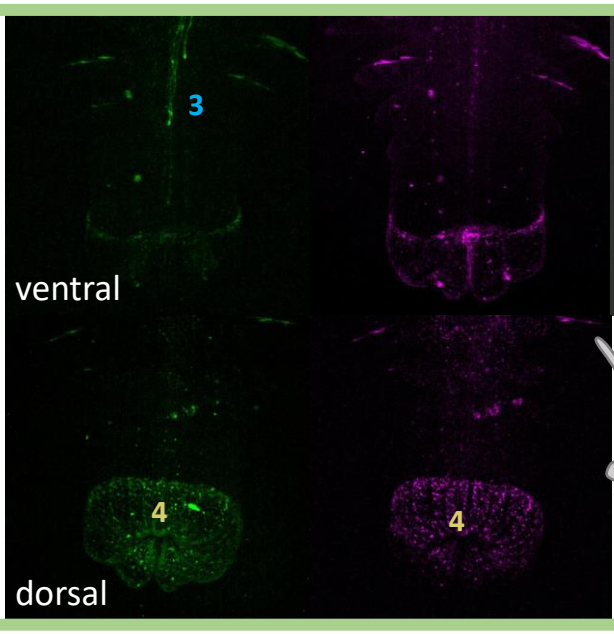
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



- Bilateral median neural lineage 1
- Left pygidium 2

After 1st amputation-regeneration



- Brain neurites 3
- Autofluorescent cuticle in pygidium 4

After 2nd amputation-regeneration

membranes
nuclei

N03

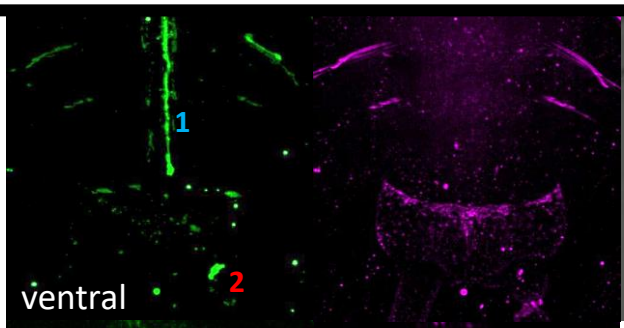
Full Z-projections

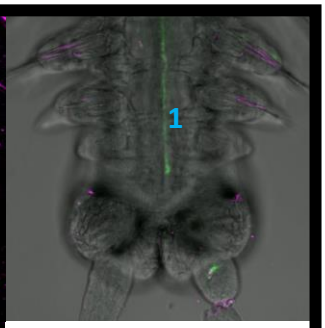
Frontal section
+ transverse scheme

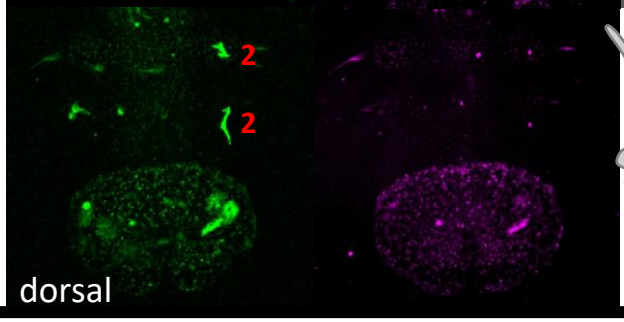
Transgenic tissues :

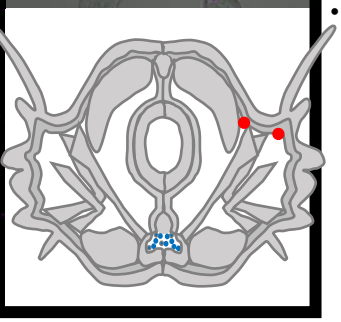
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



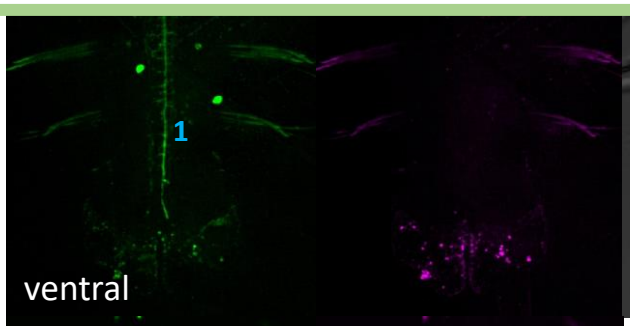


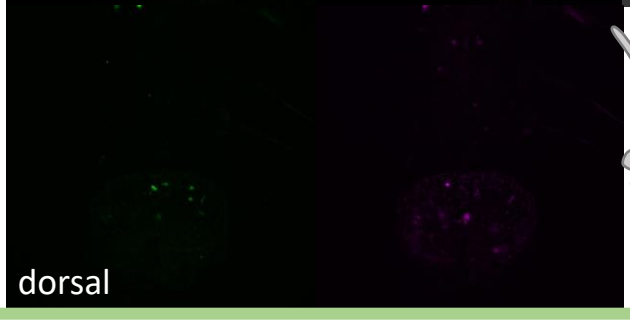


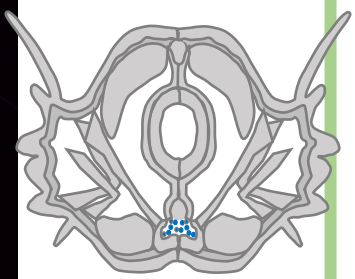


- Brain neurites 1
- Amoeboid cells 2

After 1st amputation-regeneration







- Brain neurites 1

After 2nd amputation-regeneration

membranes
nuclei

N04

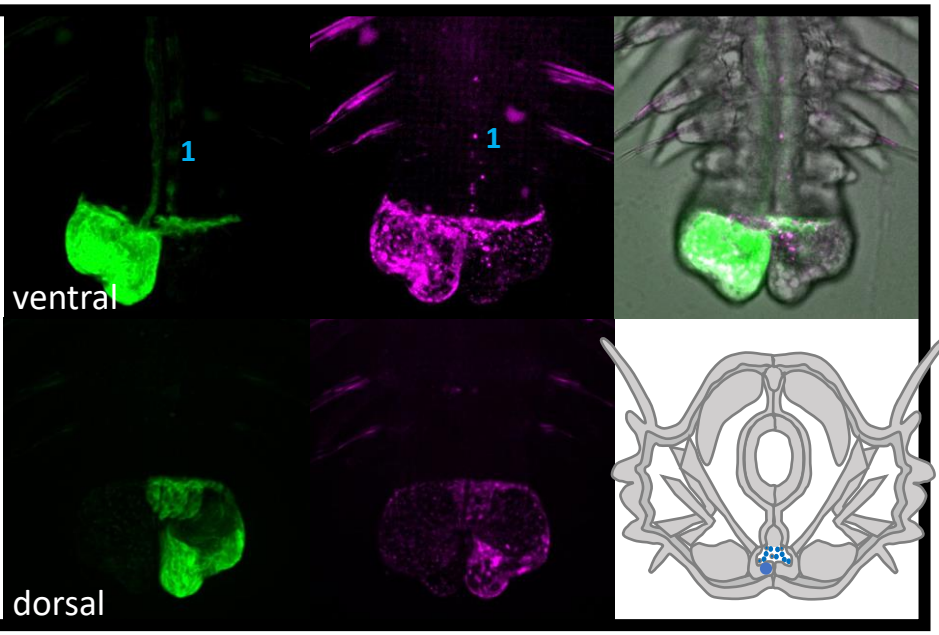
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

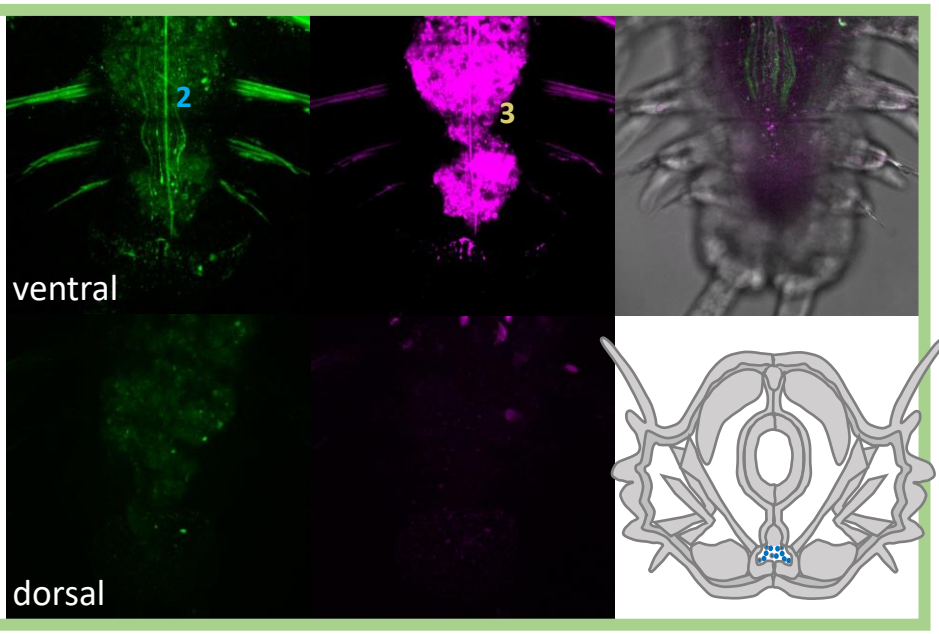
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



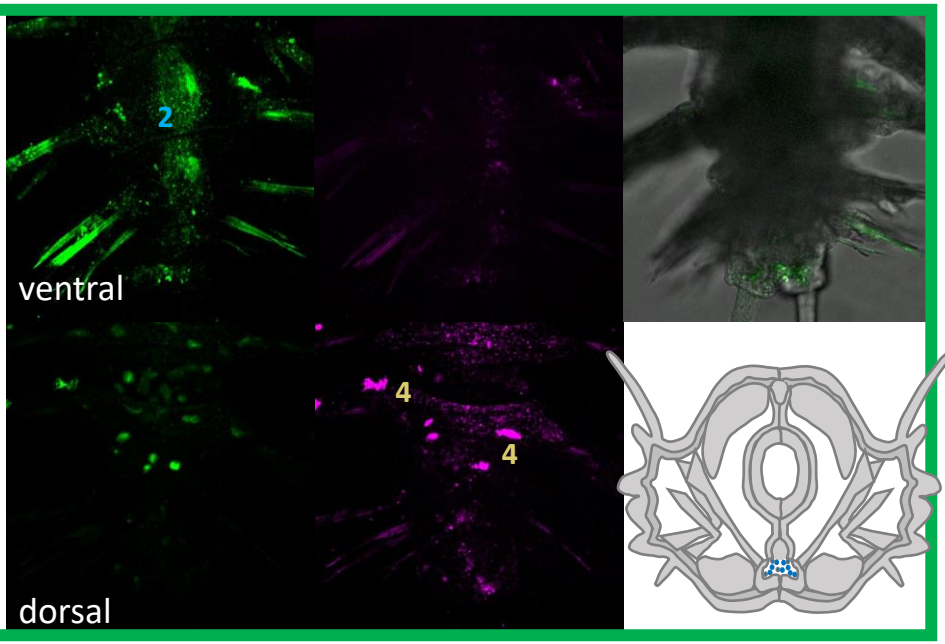
- Pygidium ectoderm, partial
- Left median neural lineage 1

After 1st amputation-regeneration



- Brain neurites 2
- Autofluorescent gut content 3

After 2nd amputation-regeneration



- Brain neurites 2
- Autofluorescent dorsal pigment cells 4

membranes
nuclei

N05

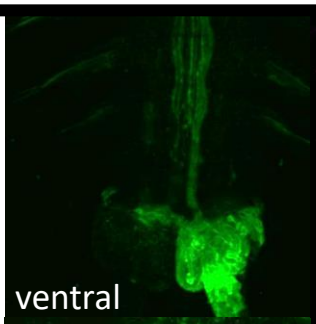
Full Z-projections

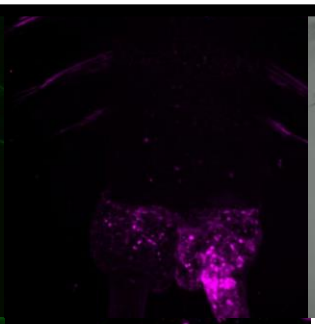
Frontal section
+ transverse scheme

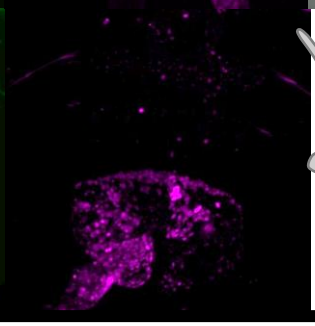
Transgenic tissues :

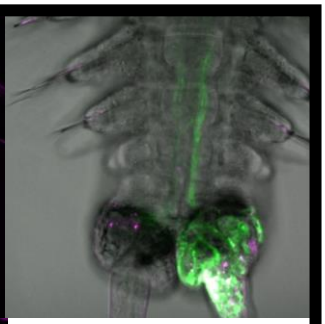
- ectoderm
- mesoderm
- endoderm

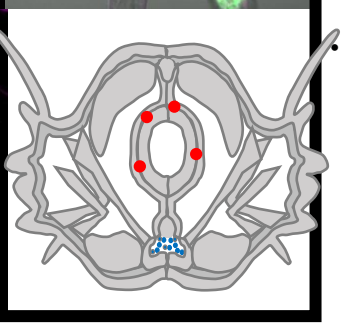
ORIGINAL TAIL (no regeneration)





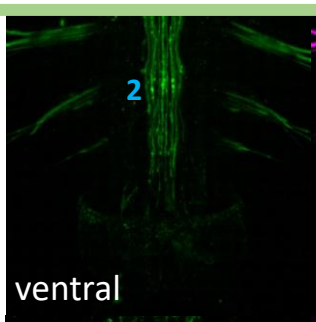


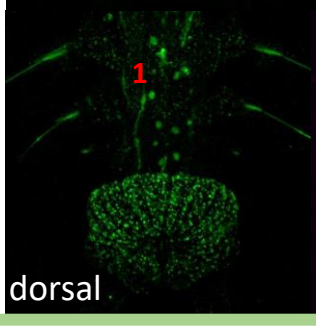


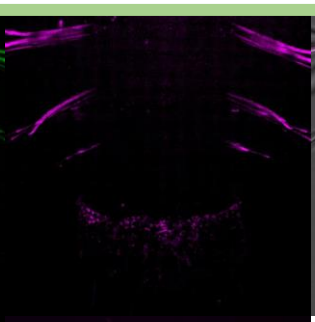


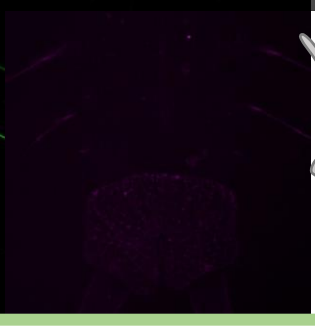
- Pygidium ectoderm, partial
- Amoeboid cells 1

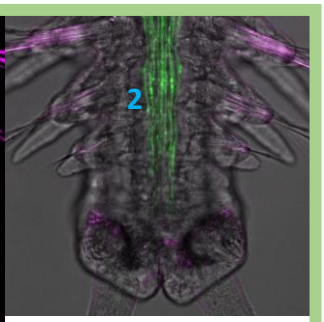
After 1st amputation-regeneration











- Amoeboid cells 1
- Brain neurites 2

After 2nd amputation-regeneration

membranes
nuclei

N06

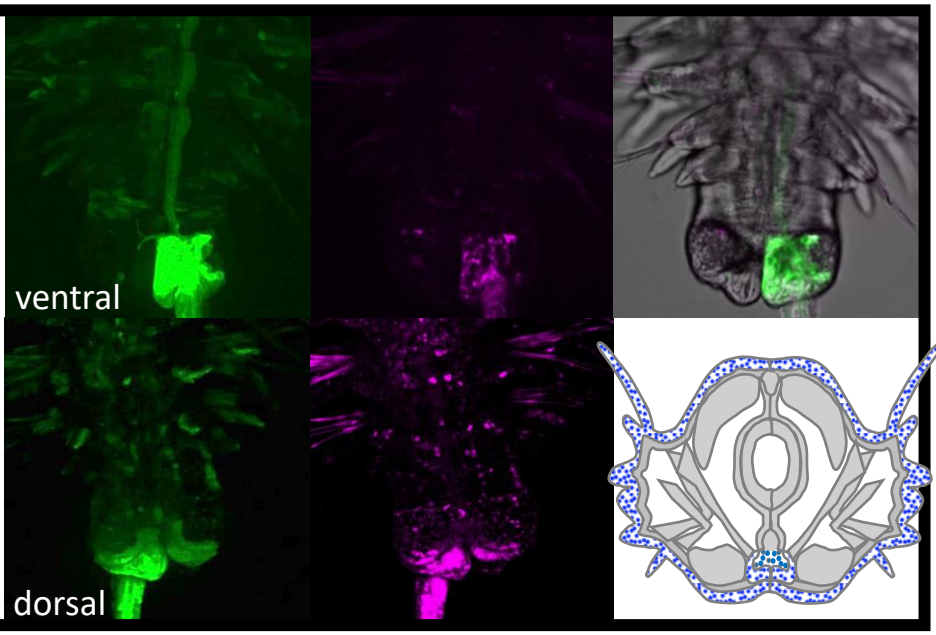
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

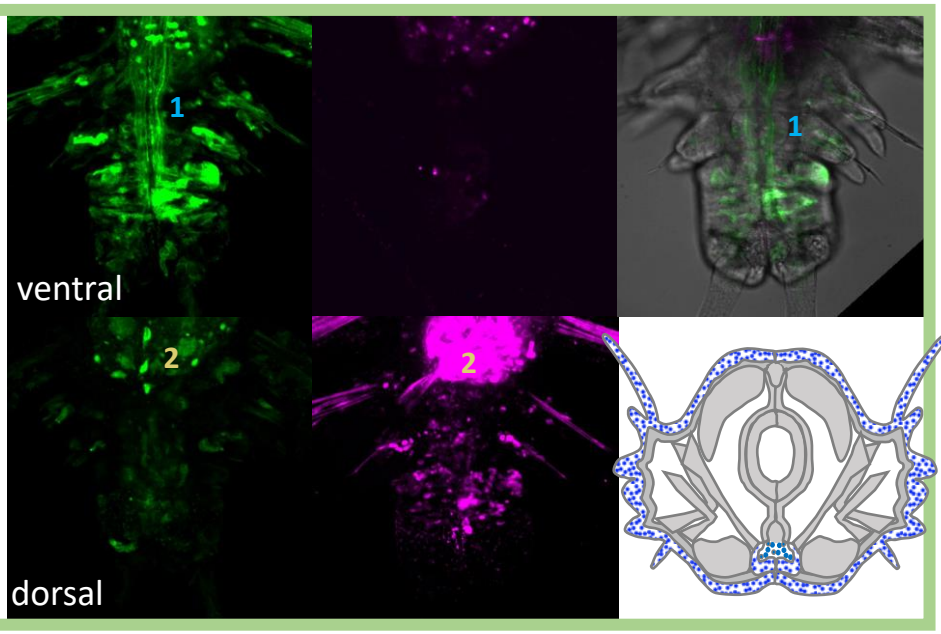
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



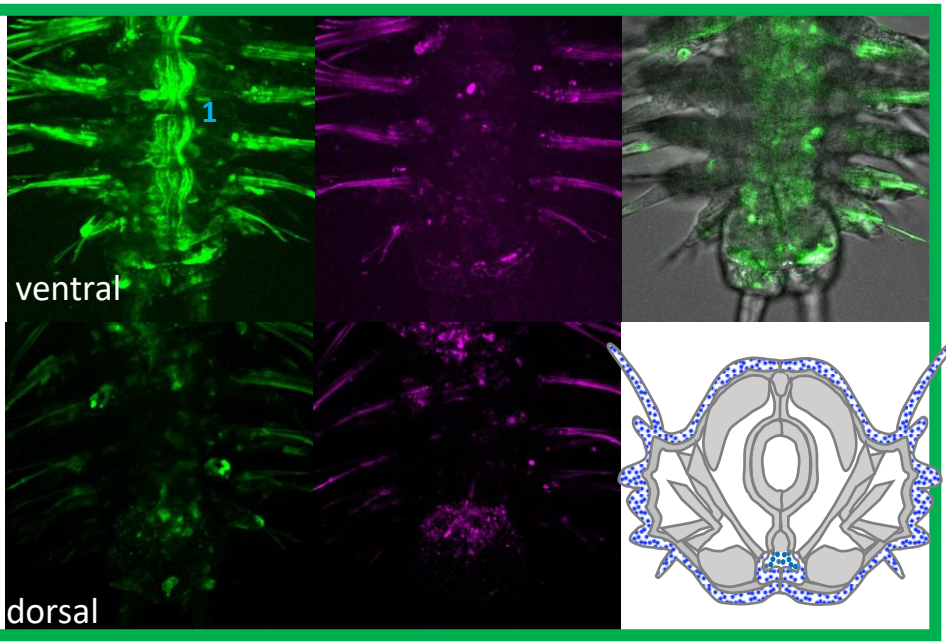
- Pygidium ectoderm left side
- Segmental ectoderm, very weak and patchy

After 1st amputation-regeneration



- Segmental ectoderm, very weak and patchy
- Pygidium ectoderm, weak and patchy
- Brain neurites 1
- Autofluorescent gut content 2

After 2nd amputation-regeneration



- Segmental ectoderm, very weak and patchy
- Pygidium ectoderm, weak and patchy
- Brain neurites 1

membranes
nuclei

N07

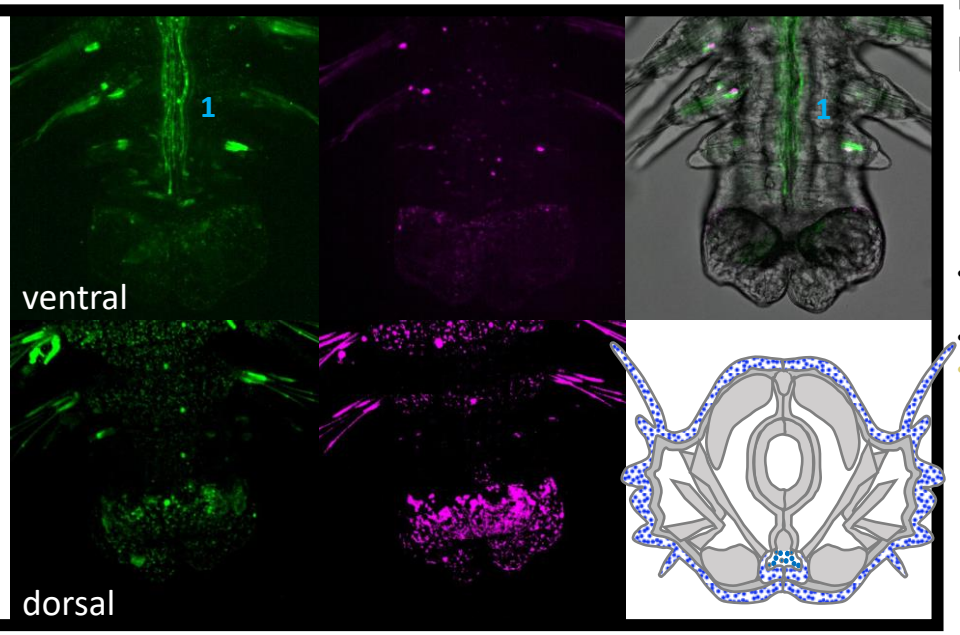
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

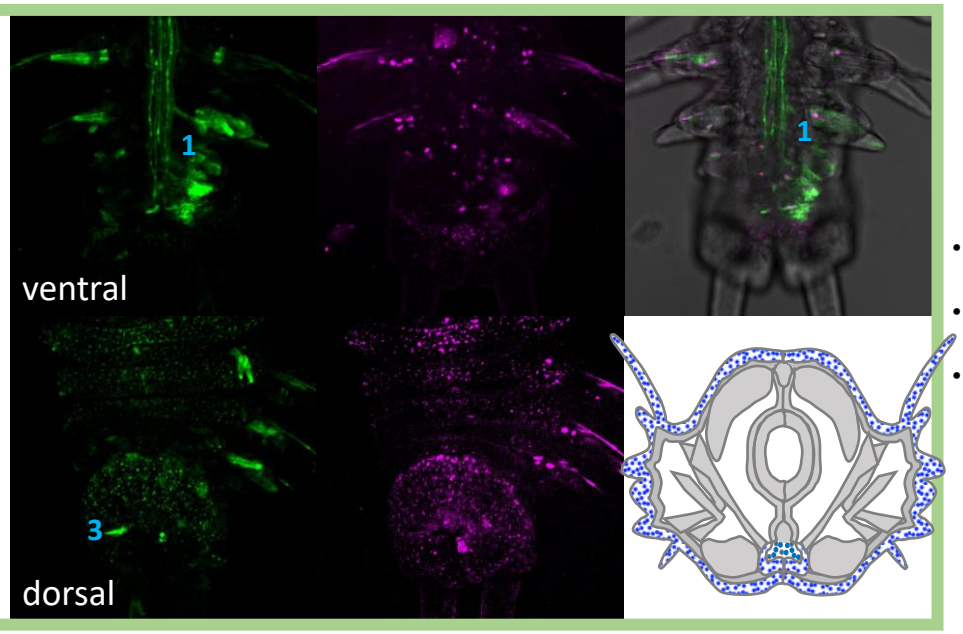
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



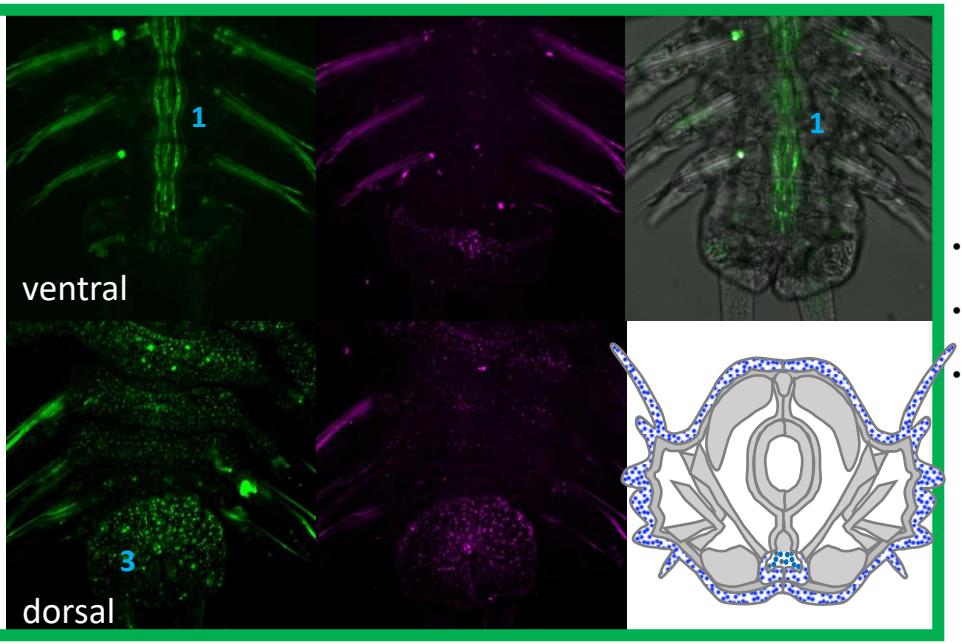
- Segmental ectoderm, very weak and patchy
- Brain neurites 1
- Autofluorescent cuticle in pygidium 2

After 1st amputation-regeneration



- Segmental ectoderm, very weak and patchy
- Pygidium ectoderm, weak and patchy 3
- Brain neurites 1

After 2nd amputation-regeneration



- Segmental ectoderm, very weak and patchy
- Pygidium ectoderm, weak and patchy 3
- Brain neurites 1

membranes
nuclei

N08

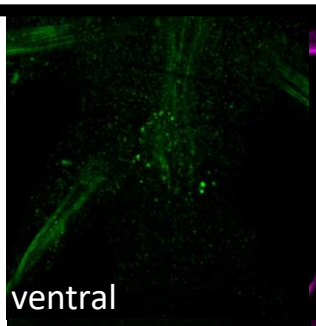
Full Z-projections

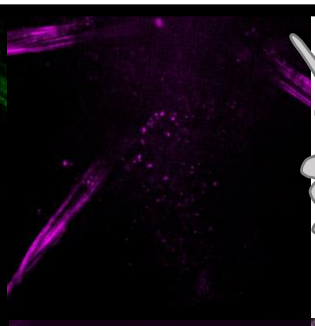
Frontal section
+ transverse scheme

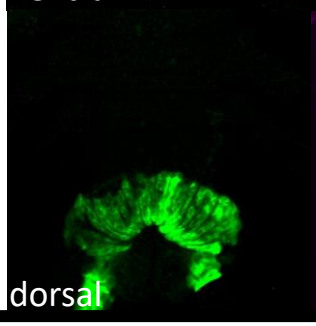
Transgenic tissues :

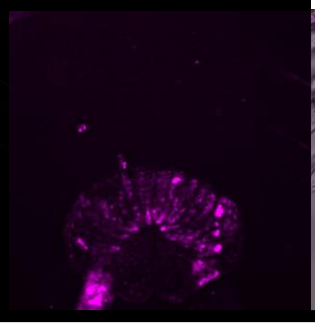
- ectoderm
- mesoderm
- endoderm

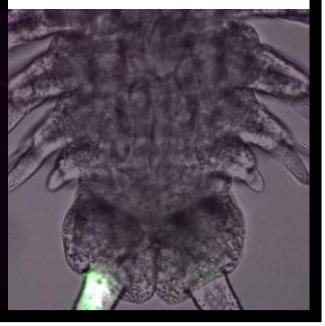
ORIGINAL TAIL (no regeneration)





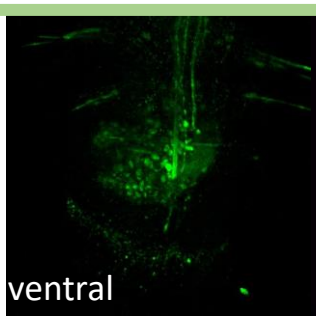


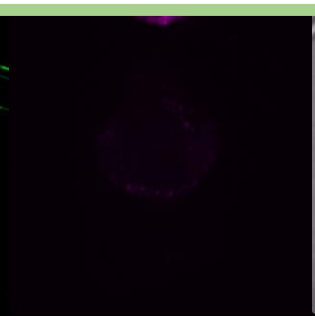


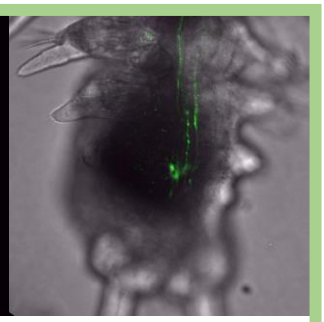


- Pygidium ectoderm, partial

After 1st amputation-regeneration

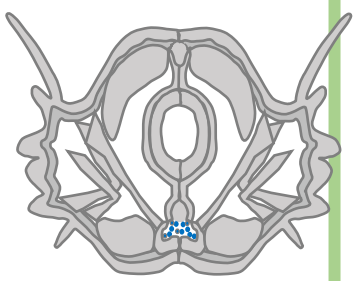






- Brain neurites

No dorsal view



After 2nd amputation-regeneration

membranes
nuclei

N09

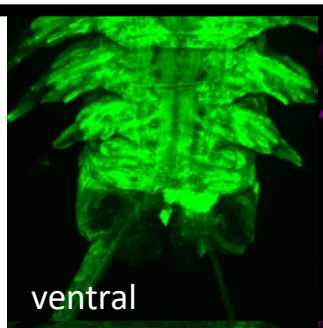
Full Z-projections

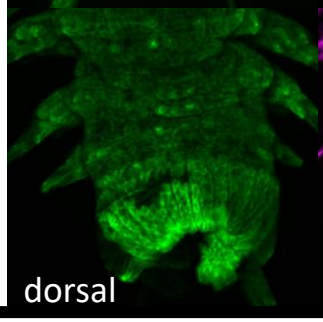
Frontal section
+ transverse scheme

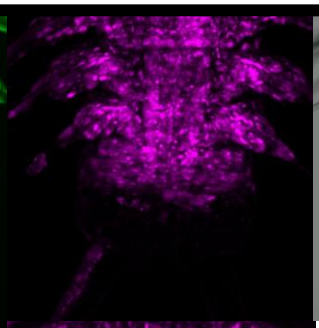
Transgenic tissues :

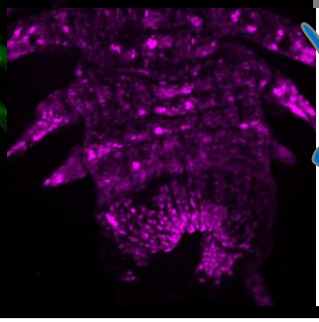
- ectoderm
- mesoderm
- endoderm

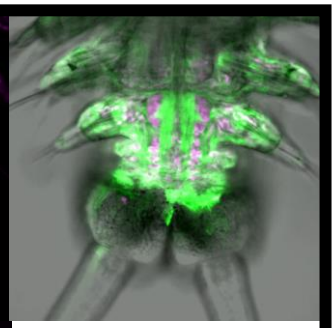
ORIGINAL TAIL (no regeneration)

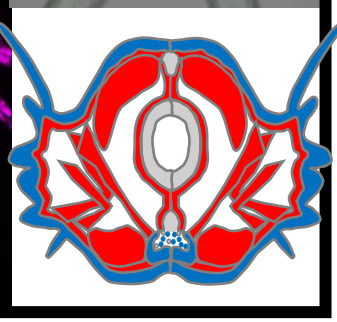






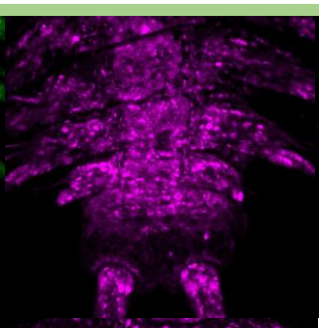


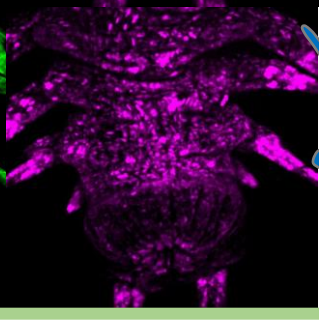


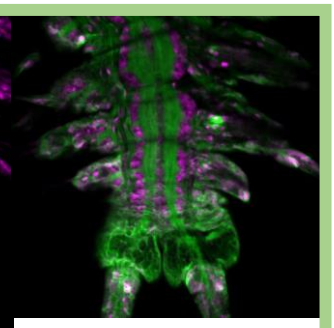


- Pygidium ectoderm, partial
- Segmental ectoderm
- Segmental mesoderm

After 1st amputation-regeneration

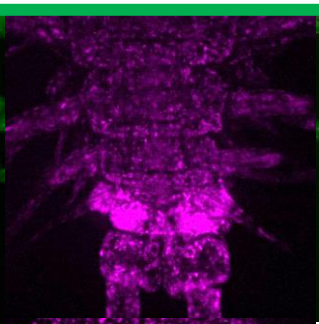


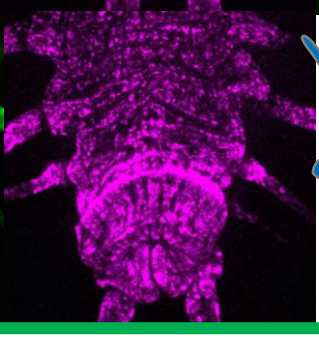


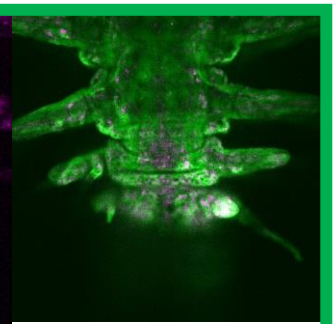


- Pygidium ectoderm
- Segmental ectoderm
- Segmental mesoderm

After 2nd amputation-regeneration







- Pygidium ectoderm
- Segmental ectoderm
- Segmental mesoderm

membranes
nuclei

N10

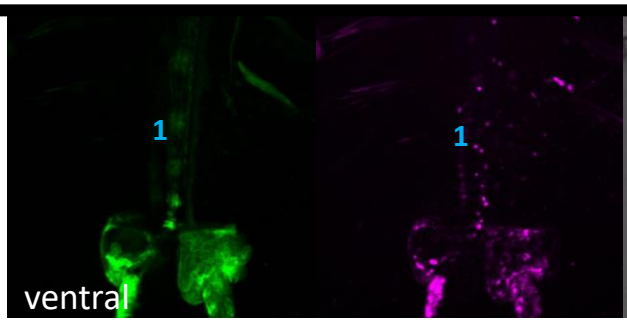
Full Z-projections

Frontal section
+ transverse scheme

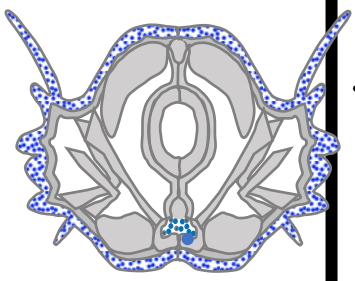
Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)

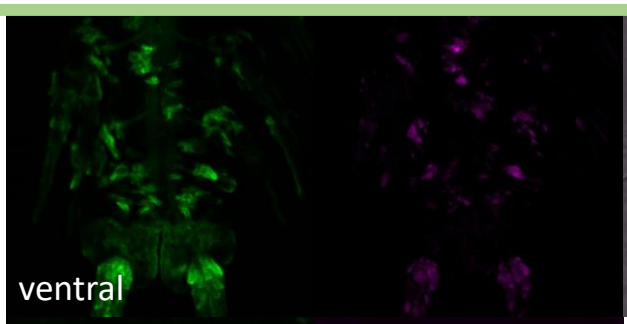


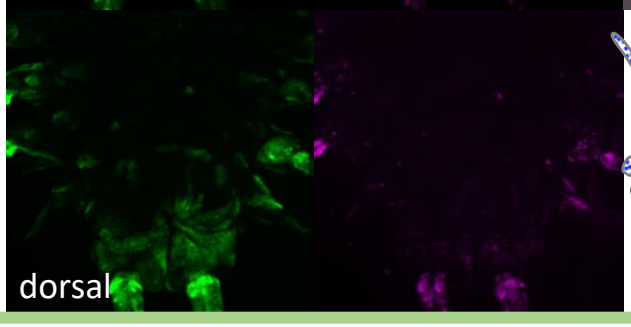
No dorsal view

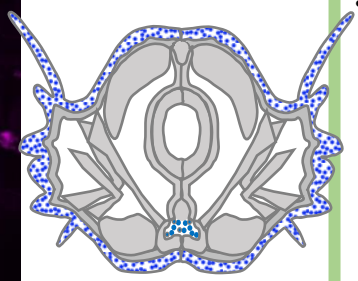


- Pygidium ectoderm
- Segmental ectoderm, very weak and variegated
- Right median neural lineage 1

After 1st amputation-regeneration

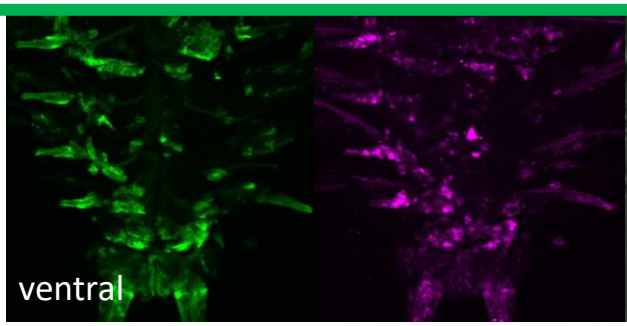




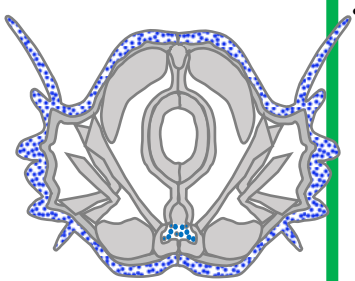


- Pygidium ectoderm, variegated
- Segmental ectoderm, variegated

After 2nd amputation-regeneration



No dorsal view



- Pygidium ectoderm, variegated
- Segmental ectoderm, variegated

membranes
nuclei

N11

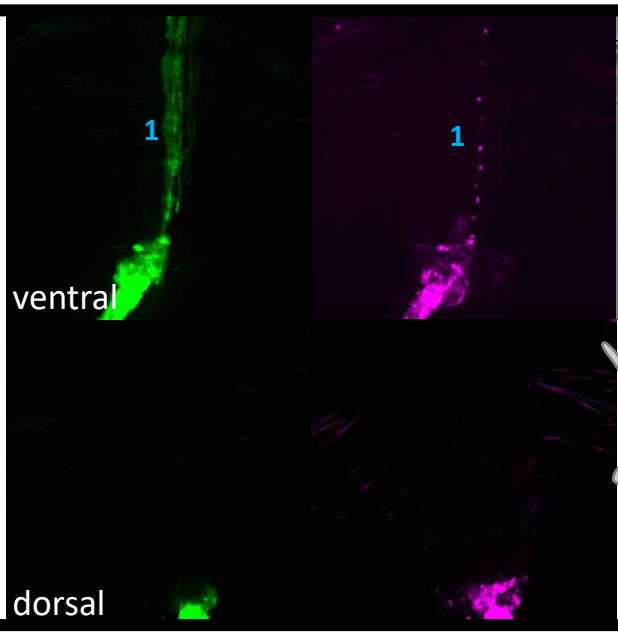
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

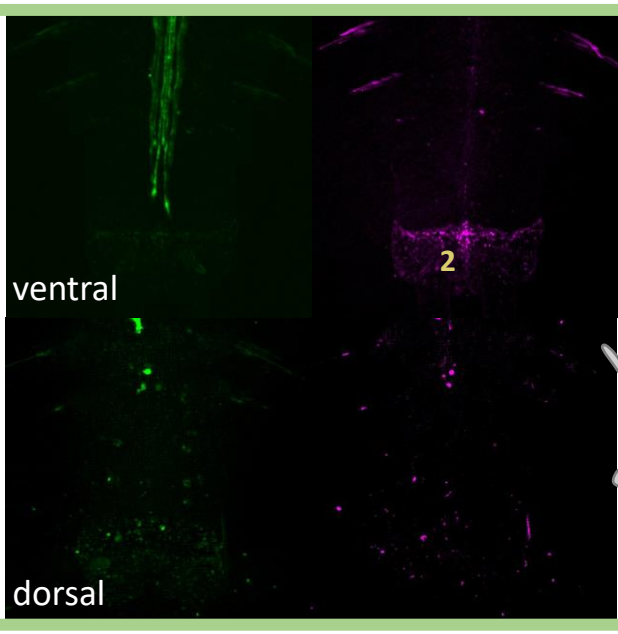
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



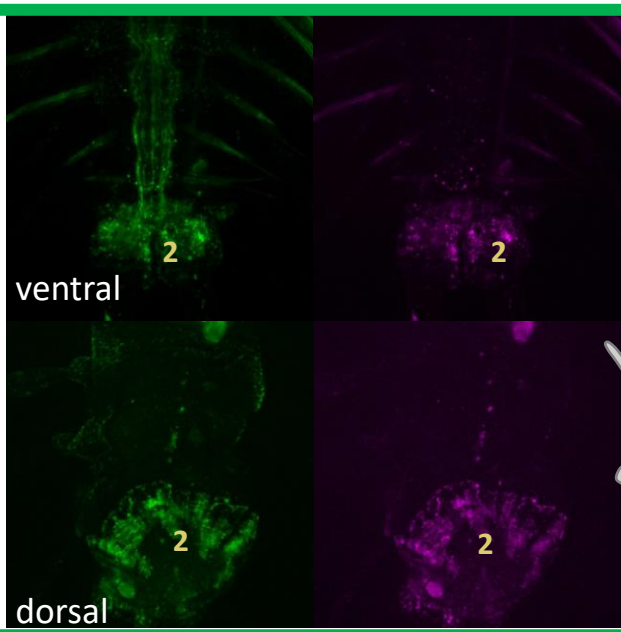
- Right pygidium
- Right median neural lineage 1

After 1st amputation-regeneration



- Brain neurites
- Autofluorescent cuticle in pygidium 2

After 2nd amputation-regeneration



- Brain neurites
- Autofluorescent cuticle in pygidium 2

membranes
nuclei

N12

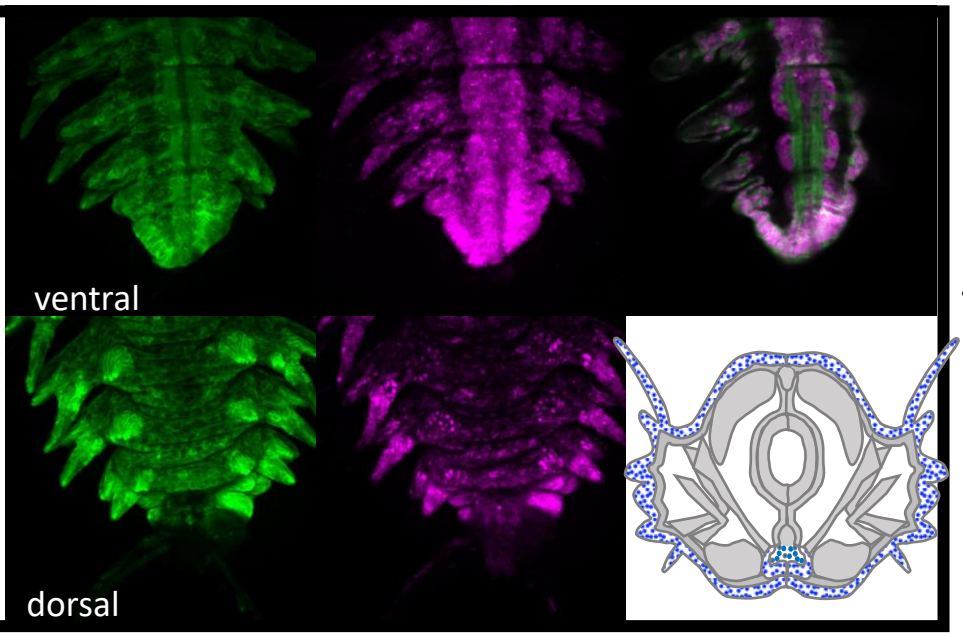
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL
(no regeneration)



- Segmental ectoderm variegated

After 1st amputation-regeneration

After 2nd amputation-regeneration

membranes
nuclei

N13

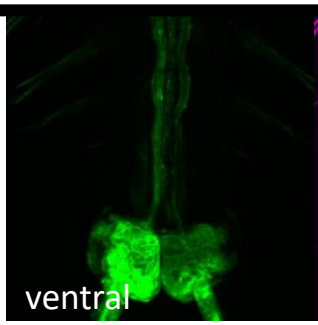
Full Z-projections

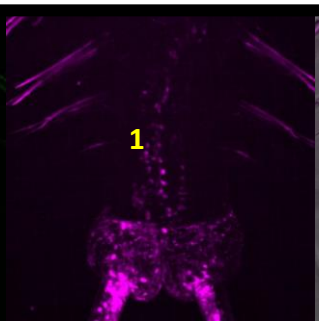
Frontal section
+ transverse scheme

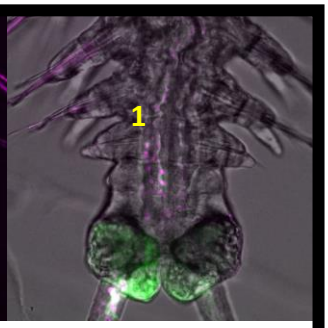
Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

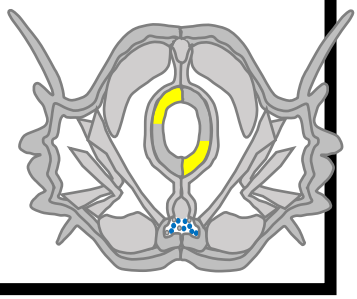
ORIGINAL TAIL (no regeneration)





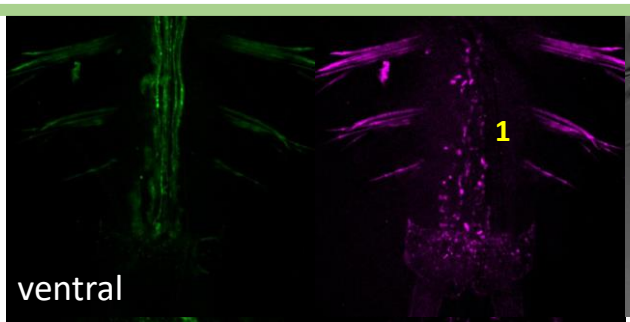


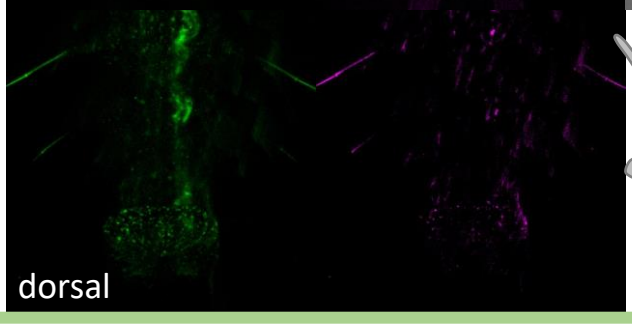
No dorsal view

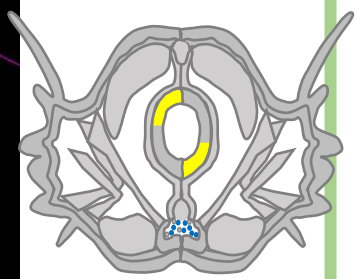


- Right median neural lineage
- Pygidium ectoderm
- Endoderm, partial 1

After 1st amputation-regeneration







- Endoderm, partial 1

After 2nd amputation-regeneration

membranes
nuclei

N14

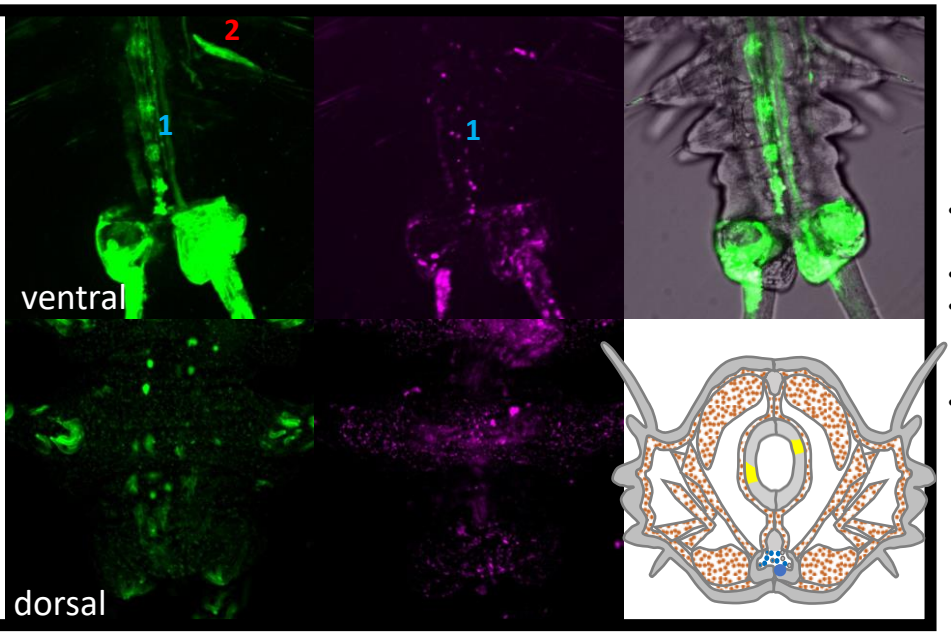
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

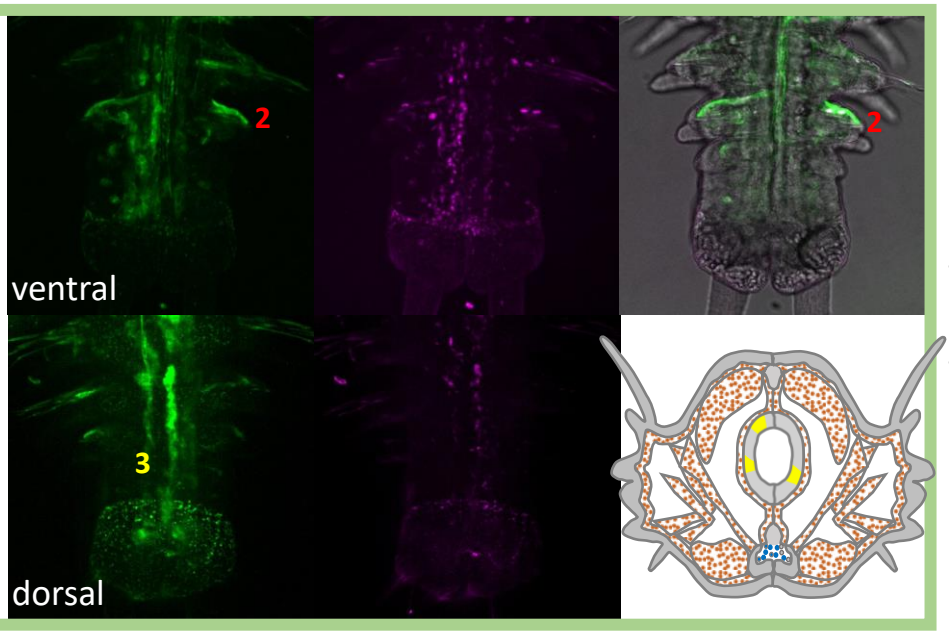
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



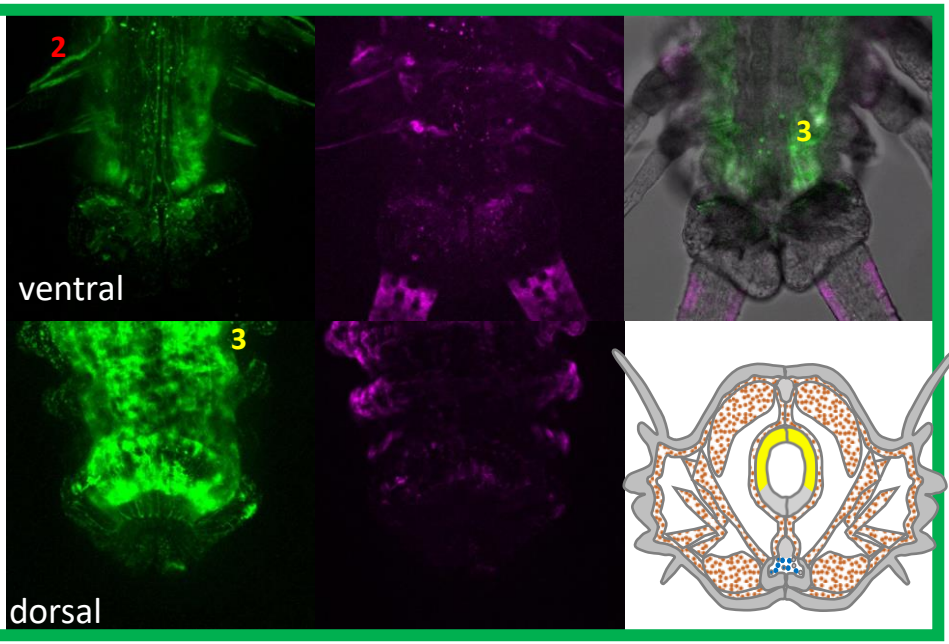
- Right median neural lineage 1
- Pygidium ectoderm
- Segmental mesoderm, variegated 2
- Endoderm, partial

After 1st amputation-regeneration



- Segmental mesoderm, variegated 2
- Endoderm, partial 3

After 2nd amputation-regeneration



- Segmental mesoderm, variegated 2
- Endoderm, partial 3

membranes
nuclei

N15

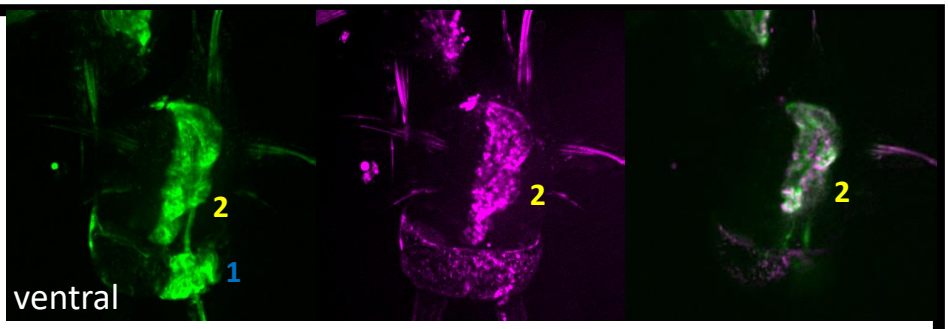
Full Z-projections

Frontal section
+ transverse scheme

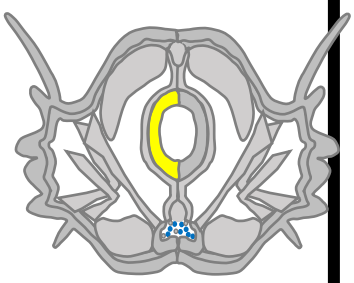
Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)

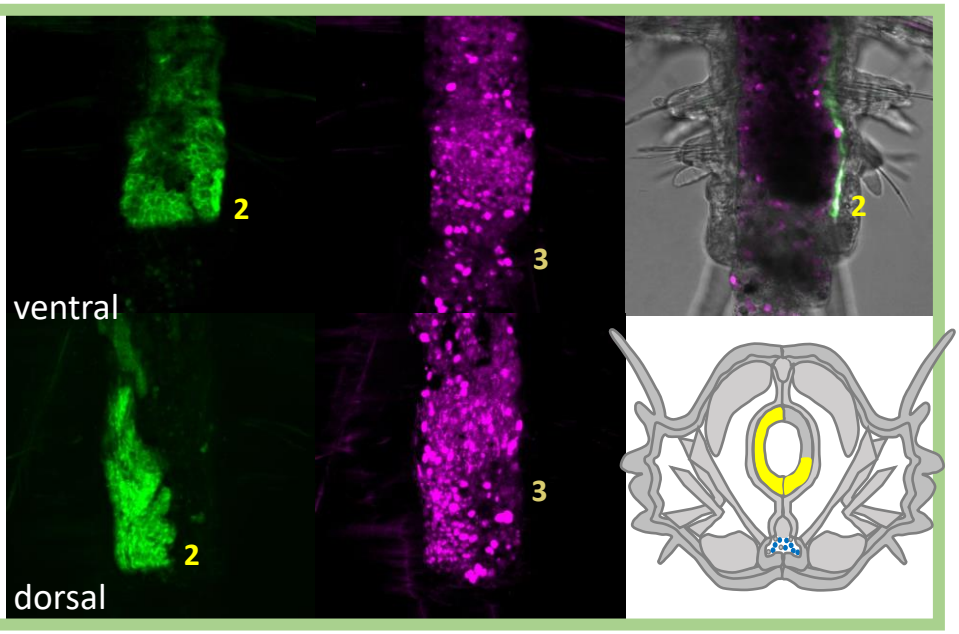


No dorsal view



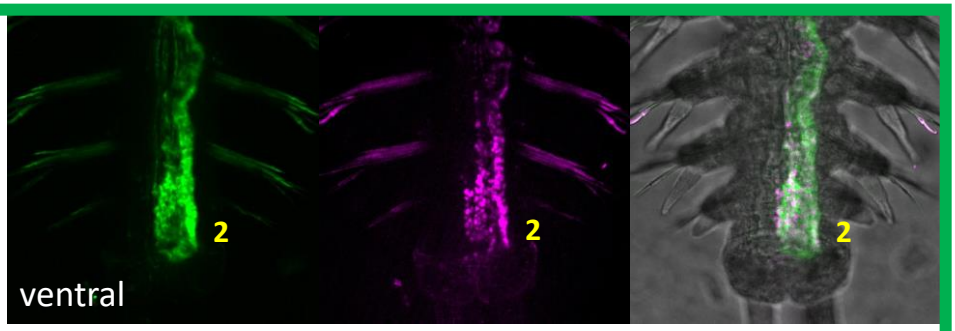
- Pygidium ectoderm, left side, partial 1
- Left endoderm 2

After 1st amputation-regeneration

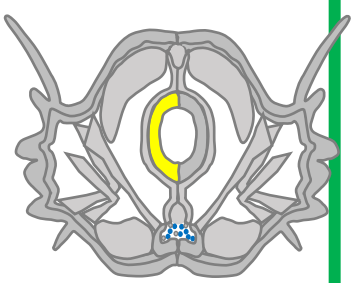


- Left and ventral endoderm 2
- Fluorescent gut content 3

After 2nd amputation-regeneration



No dorsal view



- Left endoderm 2

membranes
nuclei

N16

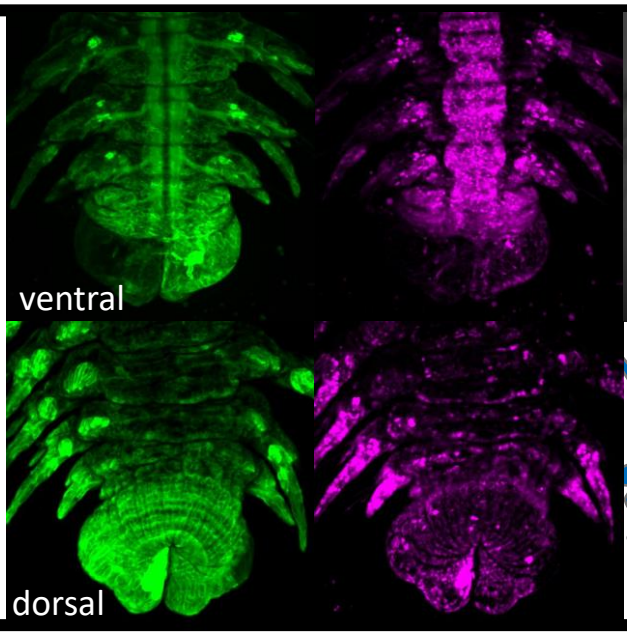
Full Z-projections

Frontal section + transverse scheme

Transgenic tissues :

- **ectoderm**
- **mesoderm**
- **endoderm**

ORIGINAL TAIL (no regeneration)



- **Segmental ectoderm**
- **Pygidium ectoderm with a missing part on the left**

After 1st amputation-regeneration

After 2nd amputation-regeneration

membranes
nuclei

N19

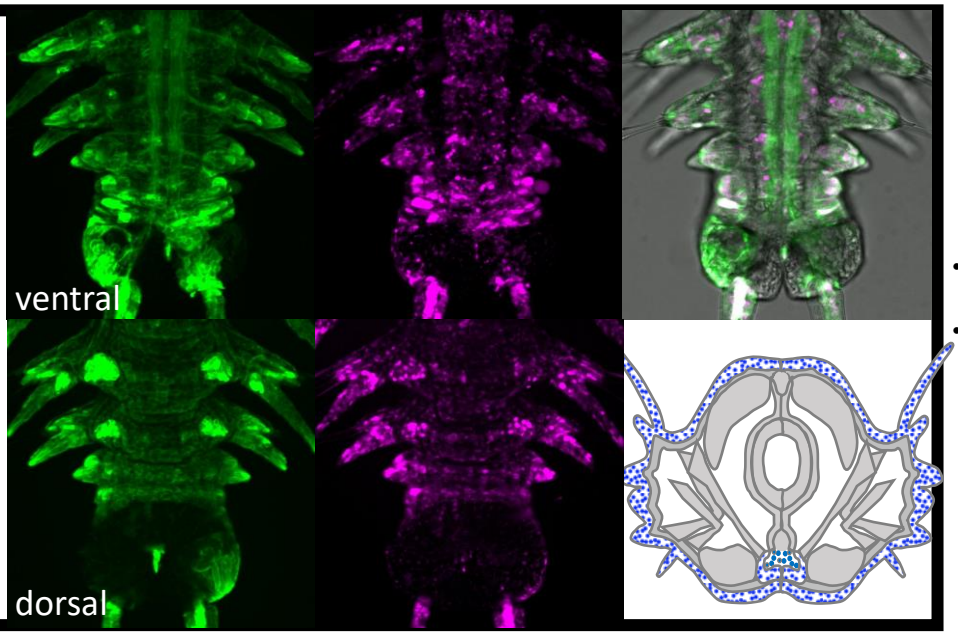
Full Z-projections

Frontal section + transverse scheme

Transgenic tissues :

- **ectoderm**
- **mesoderm**
- **endoderm**

ORIGINAL TAIL (no regeneration)



- **Segmental ectoderm, variegated**
- **Pygidium ectoderm partial**

After 1st amputation-regeneration

After 2nd amputation-regeneration

membranes
nuclei

N20

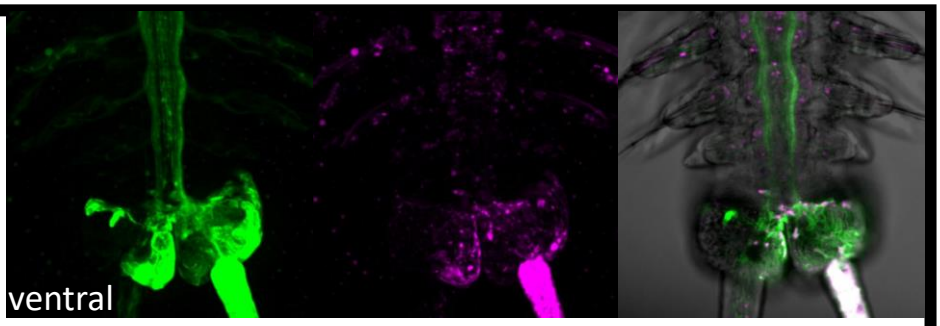
Full Z-projections

Frontal section
+ transverse scheme

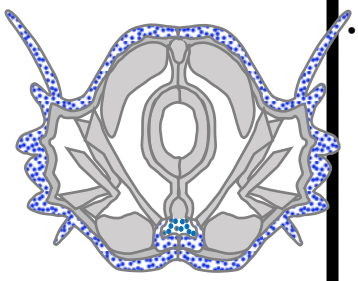
Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)

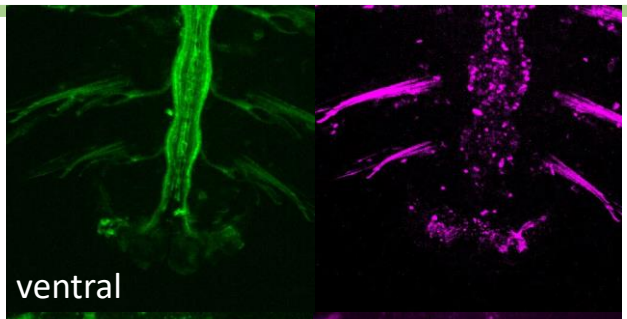


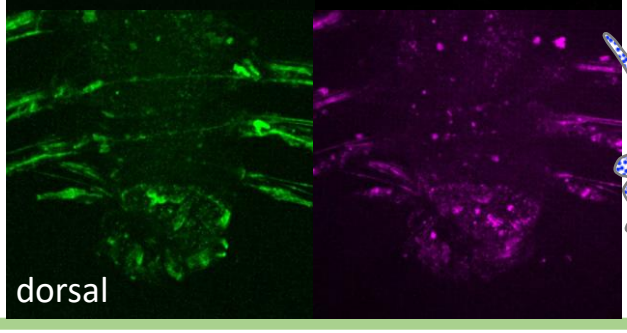
No dorsal view

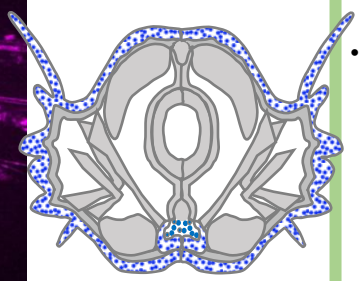


- Segmental ectoderm, weak, mostly nerves visible
- Pygidium ectoderm partial

After 1st amputation-regeneration

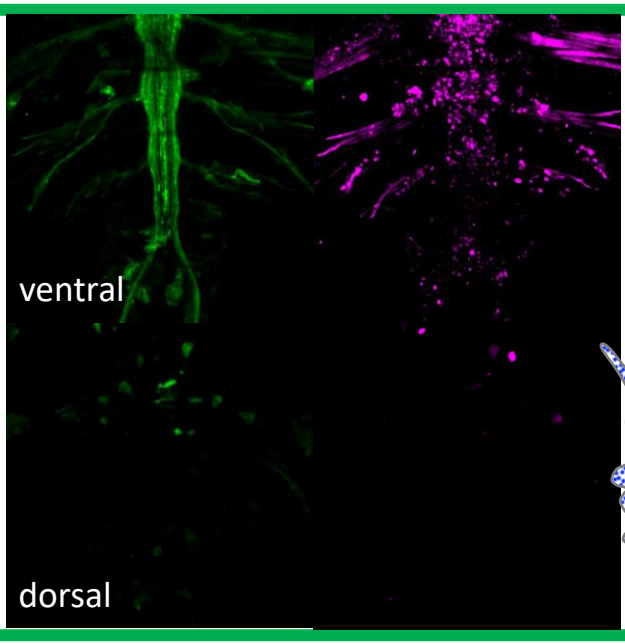


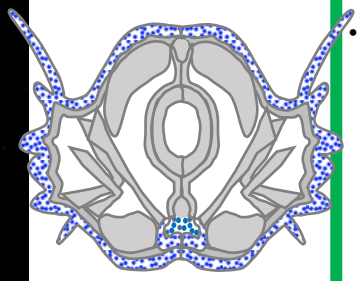




- Segmental ectoderm, weak, mostly nerves visible
- Pygidium ectoderm variegated

After 2nd amputation-regeneration





- Segmental ectoderm, weak, mostly nerves visible
- Pygidium ectoderm very weak

membranes
nuclei

N21A

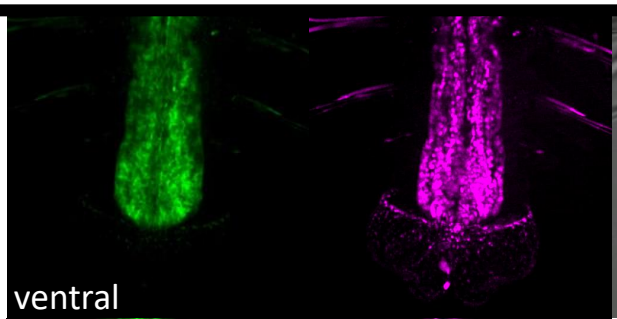
Full Z-projections

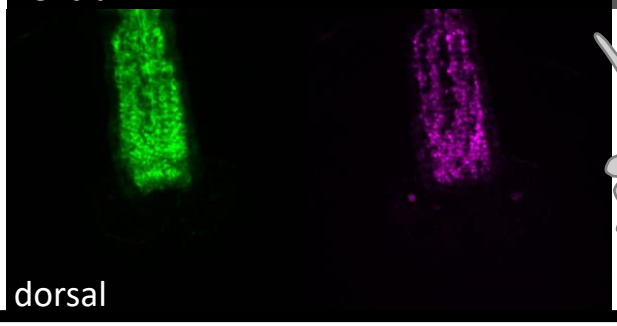
Frontal section
+ transverse scheme

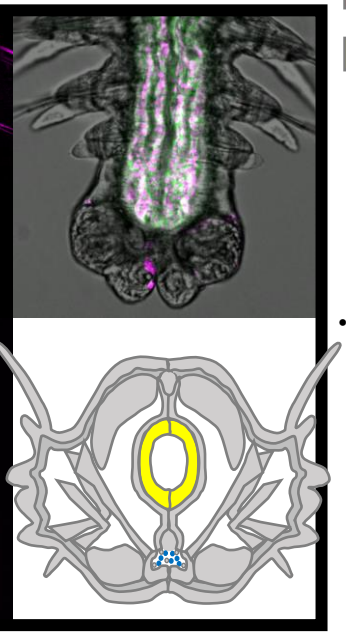
Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL
(no regeneration)



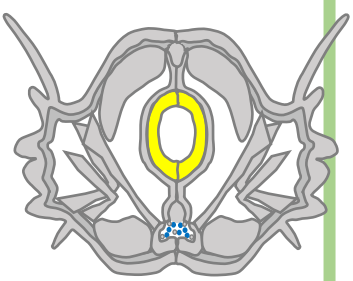


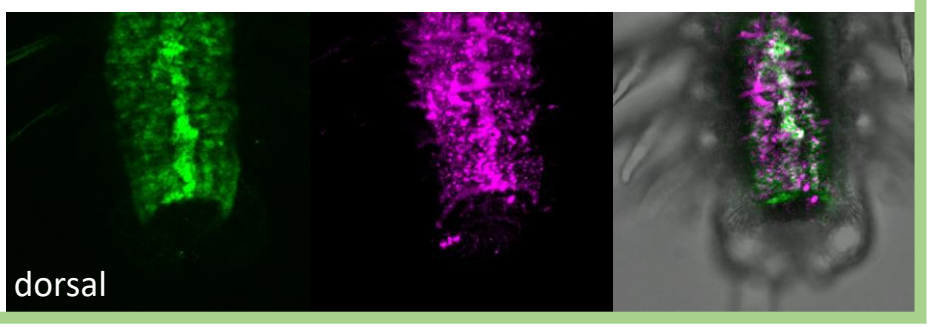


- Whole endoderm

After 1st amputation-
regeneration

No ventral view

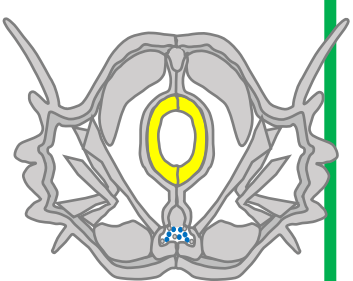


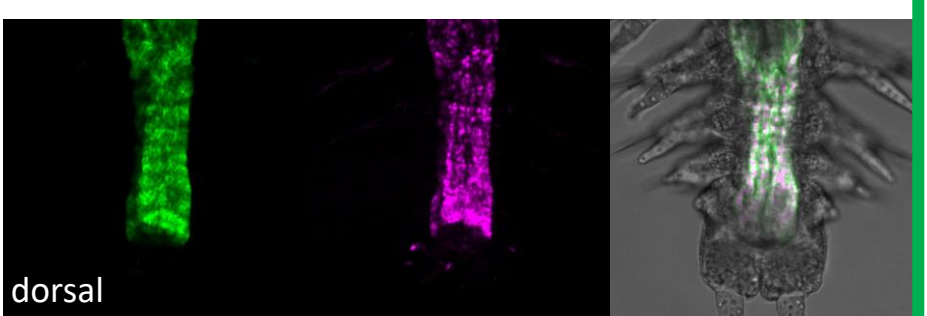


- Whole endoderm

After 2nd amputation-
regeneration

No ventral view





- Whole endoderm

membranes
nuclei

N21B

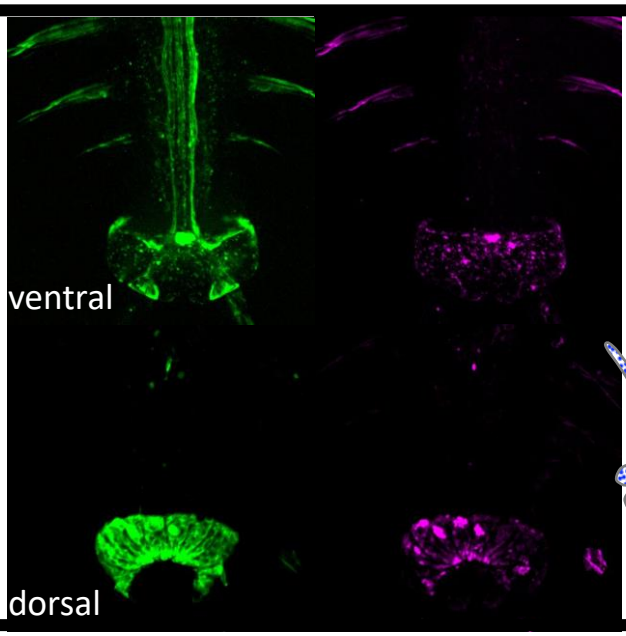
Full Z-projections

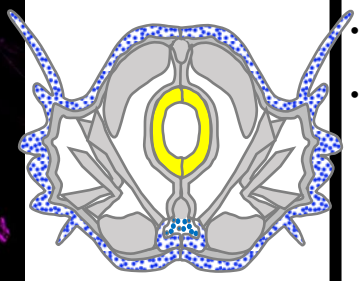
Frontal section
+ transverse scheme

Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

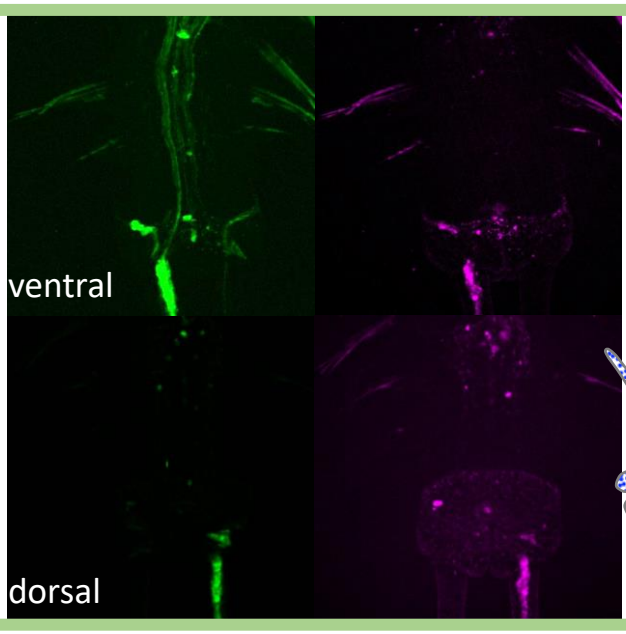
ORIGINAL TAIL (no regeneration)

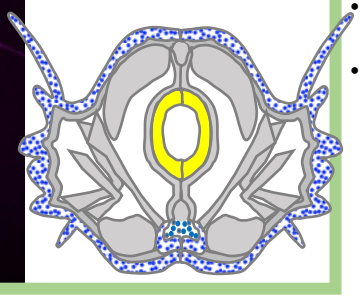




- Segmental ectoderm, weak, mostly nerves visible
- Pygidium ectoderm partial
- Endoderm, weak

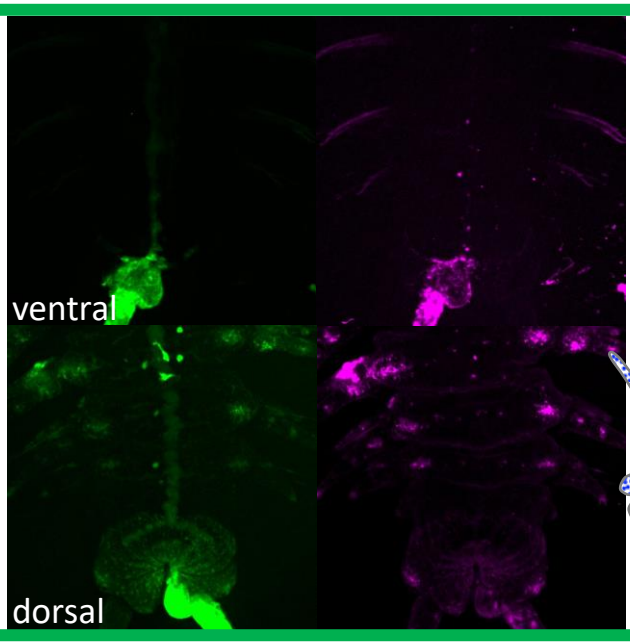
After 1st amputation-regeneration





- Segmental ectoderm, weak
- Pygidium ectoderm partial and weak
- Endoderm, weak

After 2nd amputation-regeneration



- Segmental ectoderm, weak, mostly nerves visible
- Pygidium ectoderm partial and weak
- Right median neural lineage
- Endoderm weak

membranes
nuclei

N22

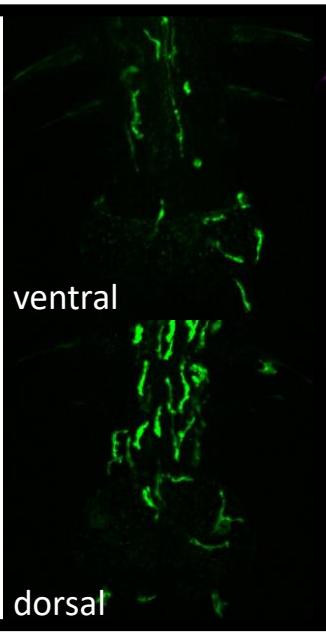
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

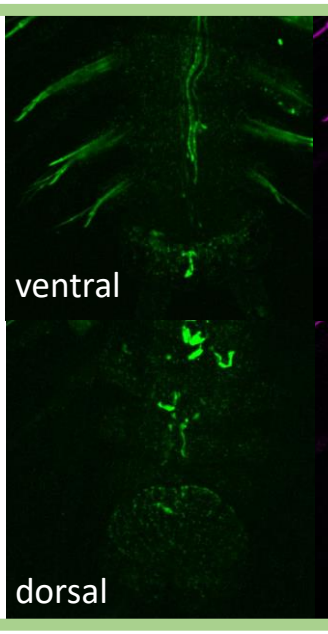
- ectoderm
- mesoderm
- endoderm

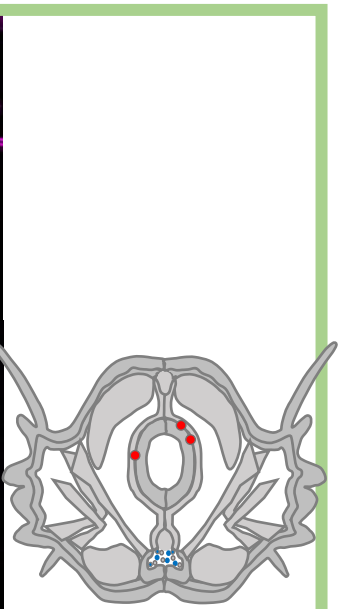
ORIGINAL TAIL (no regeneration)



- Amoeboid cells

After 1st amputation-regeneration





- Amoeboid cells (dorsal side)

After 2nd amputation-regeneration

membranes
nuclei

N23

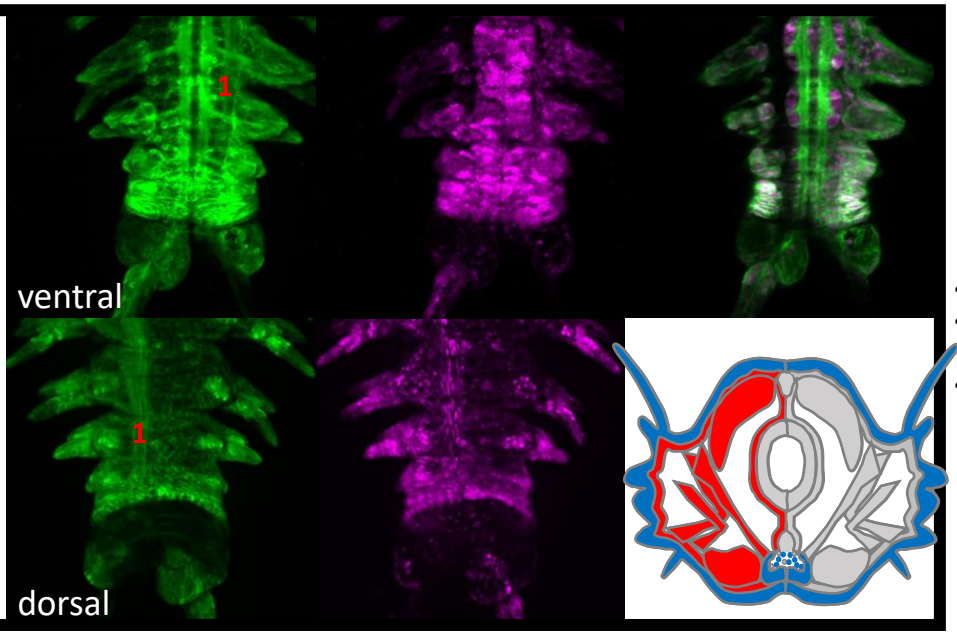
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

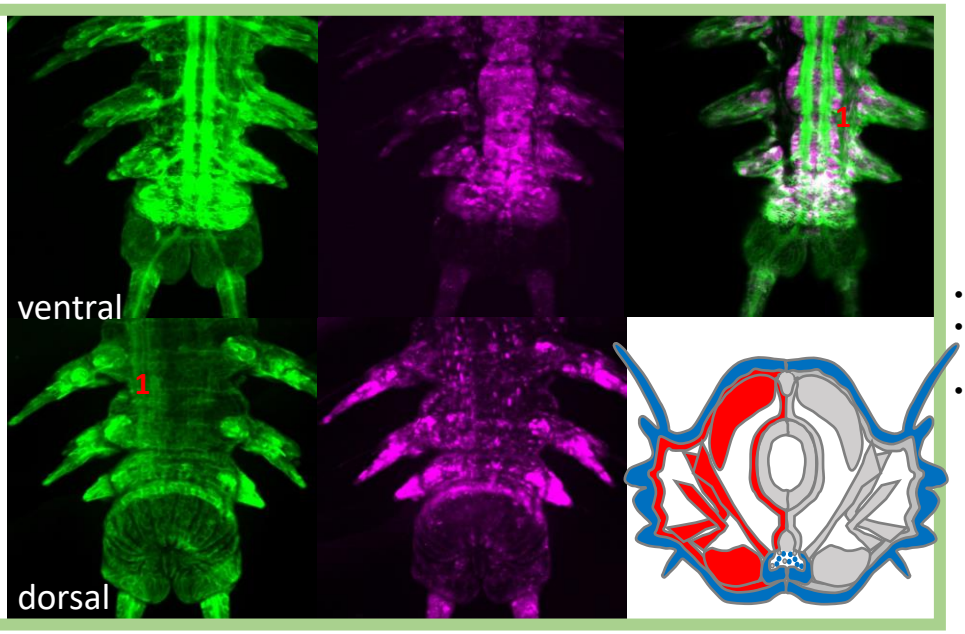
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



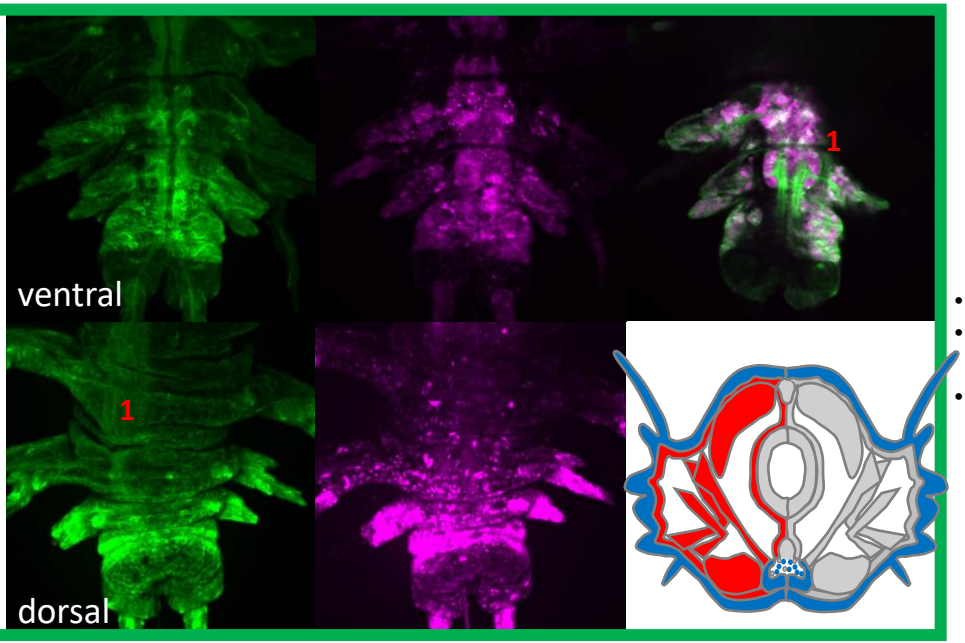
- Segmental ectoderm
- Pygidium ectoderm partial
- Left mesoderm 1

After 1st amputation-regeneration



- Segmental ectoderm
- Pygidium ectoderm partial
- Left mesoderm 1

After 2nd amputation-regeneration



- Segmental ectoderm
- Pygidium ectoderm partial
- Left mesoderm 1

membranes
nuclei

N25

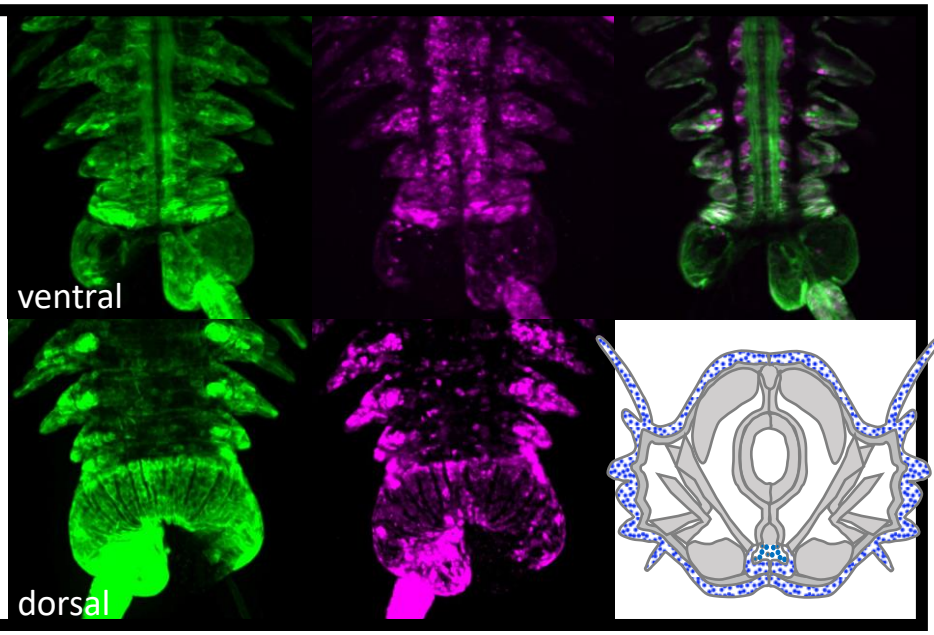
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

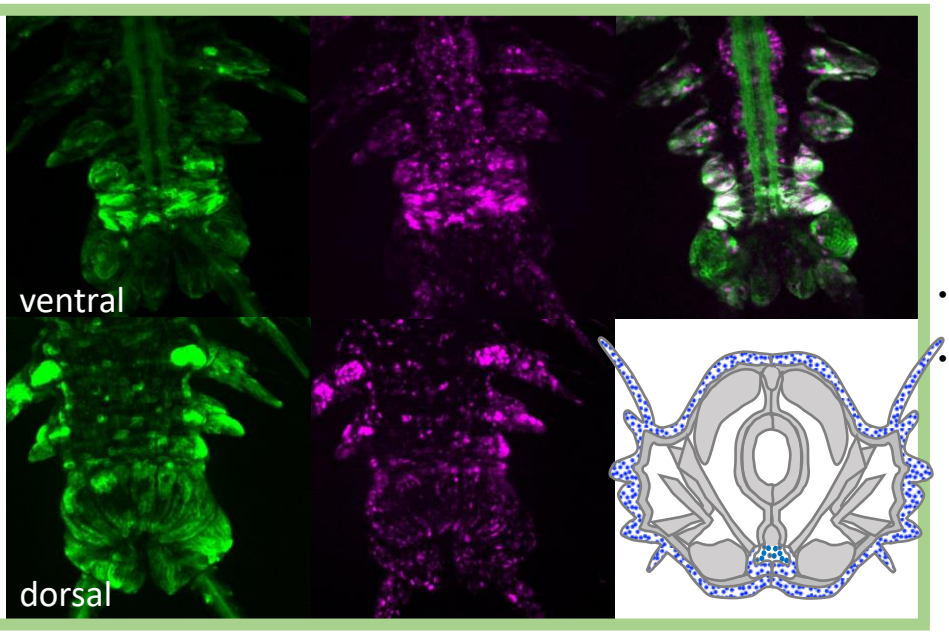
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



- Segmental ectoderm, variegated
- Pygidium ectoderm, partial

After 1st amputation-regeneration



- Segmental ectoderm, variegated
- Pygidium ectoderm, variegated

After 2nd amputation-regeneration

membranes
nuclei

N26

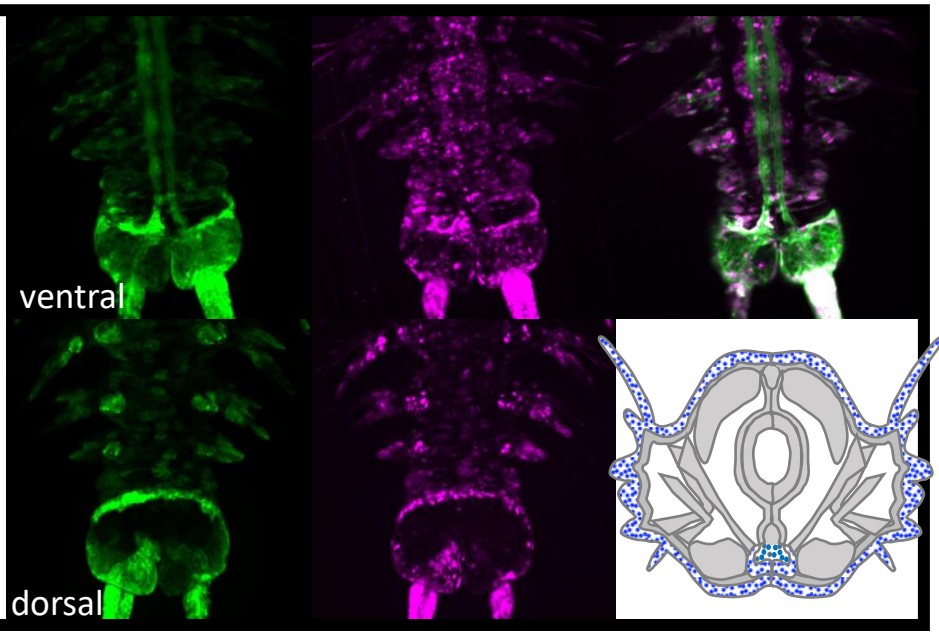
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

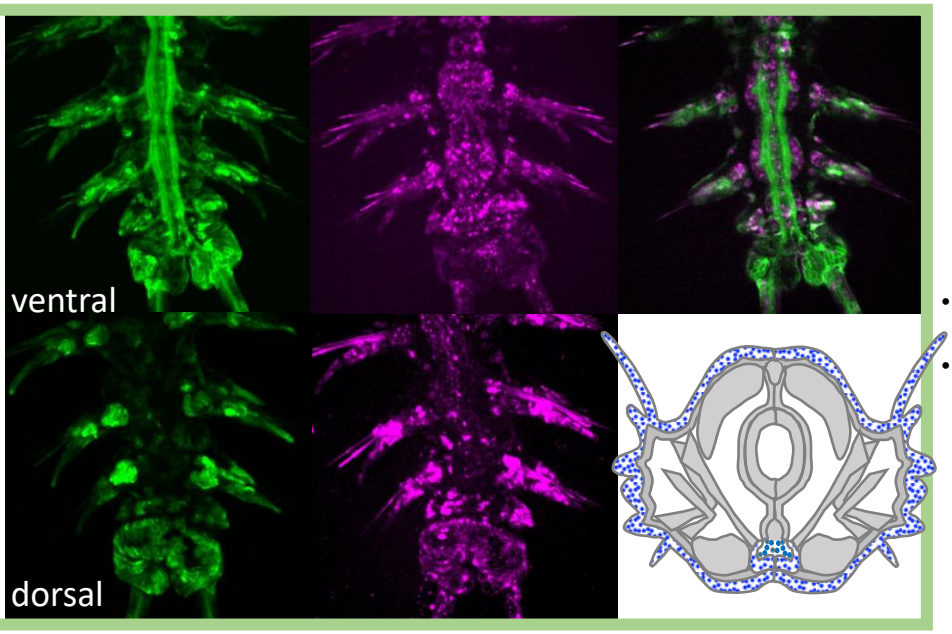
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



- Segmental ectoderm, variegated
- Pygidium ectoderm, partial

After 1st amputation-regeneration



- Segmental ectoderm, variegated
- Pygidium ectoderm, variegated

After 2nd amputation-regeneration

membranes
nuclei

N27

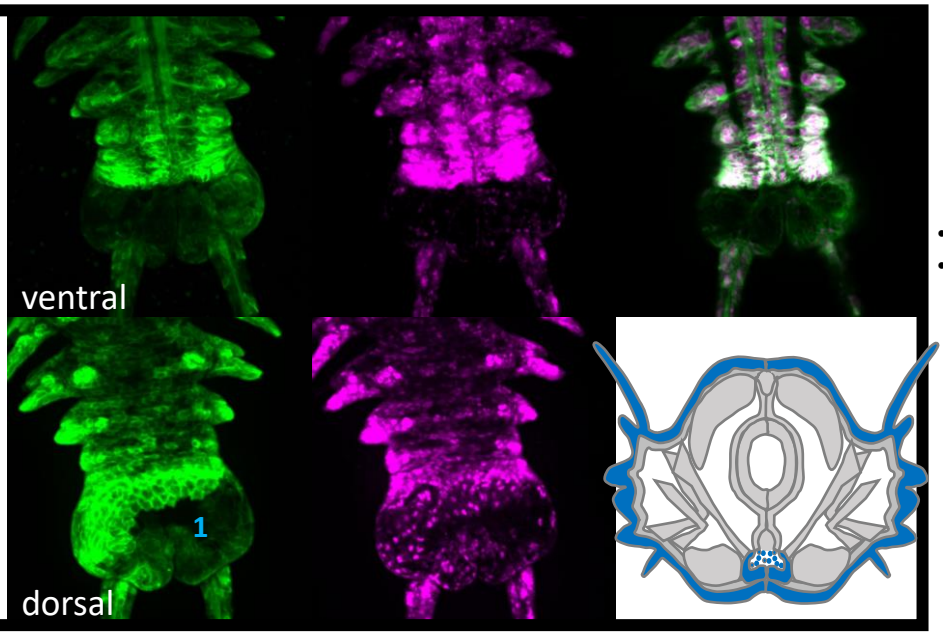
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



- Segmental ectoderm
- Pygidium ectoderm with a missing part on the right 1

After 1st amputation-regeneration

After 2nd amputation-regeneration

membranes
nuclei

N28

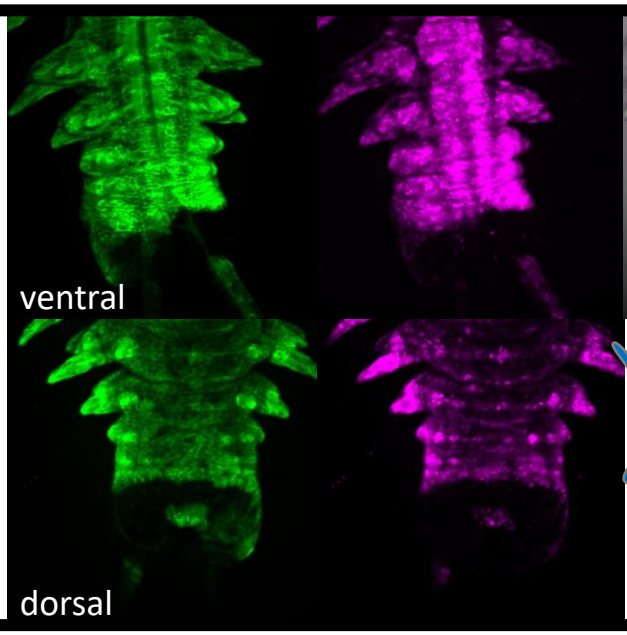
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

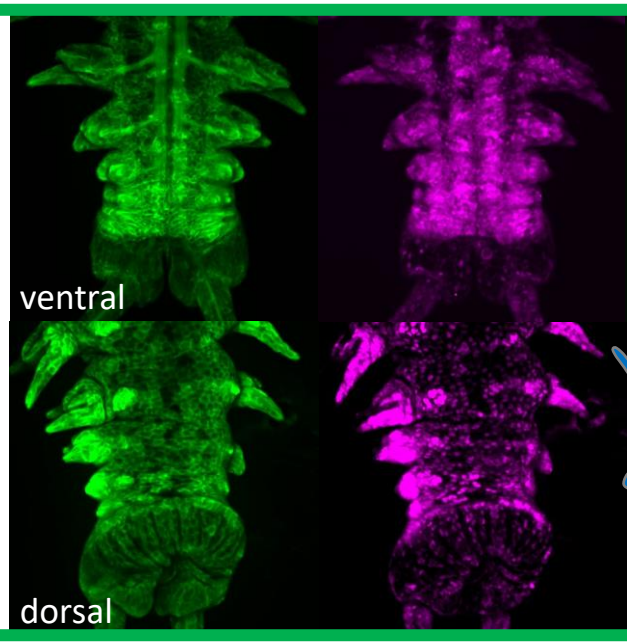
ORIGINAL TAIL (no regeneration)



- Segmental ectoderm
- Pygidium ectoderm partial

After 1st amputation-regeneration

After 2nd amputation-regeneration



- Segmental ectoderm
- Pygidium ectoderm

membranes
nuclei

N31

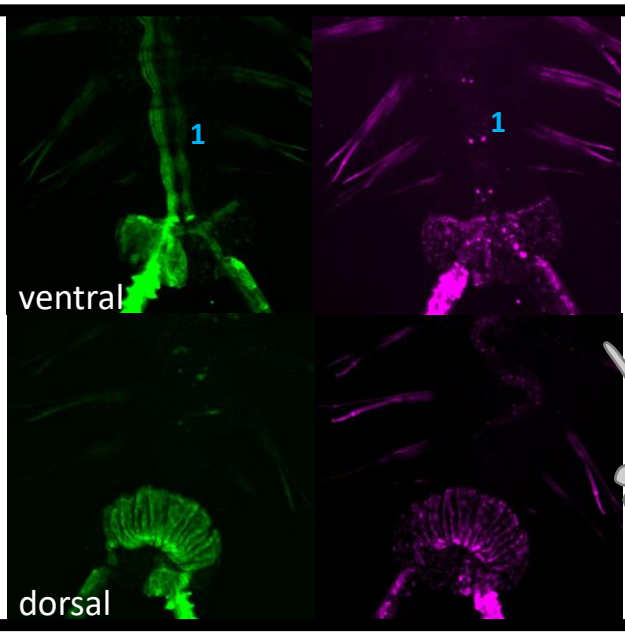
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

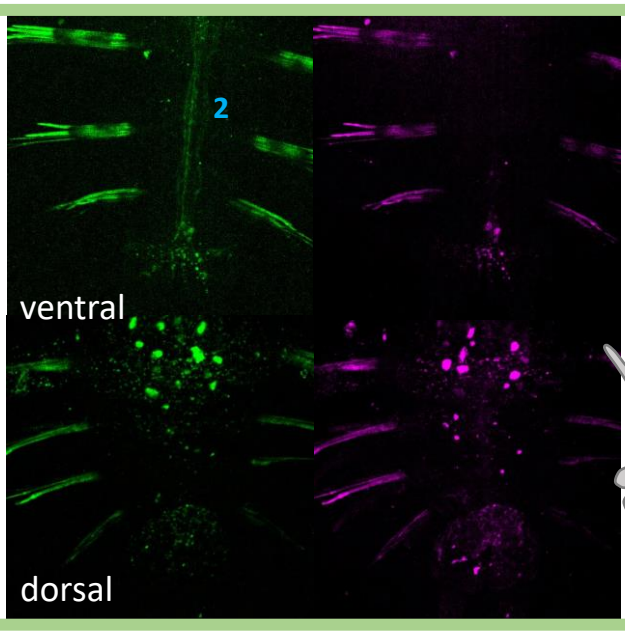
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



- Median neural lineage 1
- Pygidium ectoderm, partial

After 1st amputation-regeneration



- Brain neurites 2

After 2nd amputation-regeneration

membranes
nuclei

N33

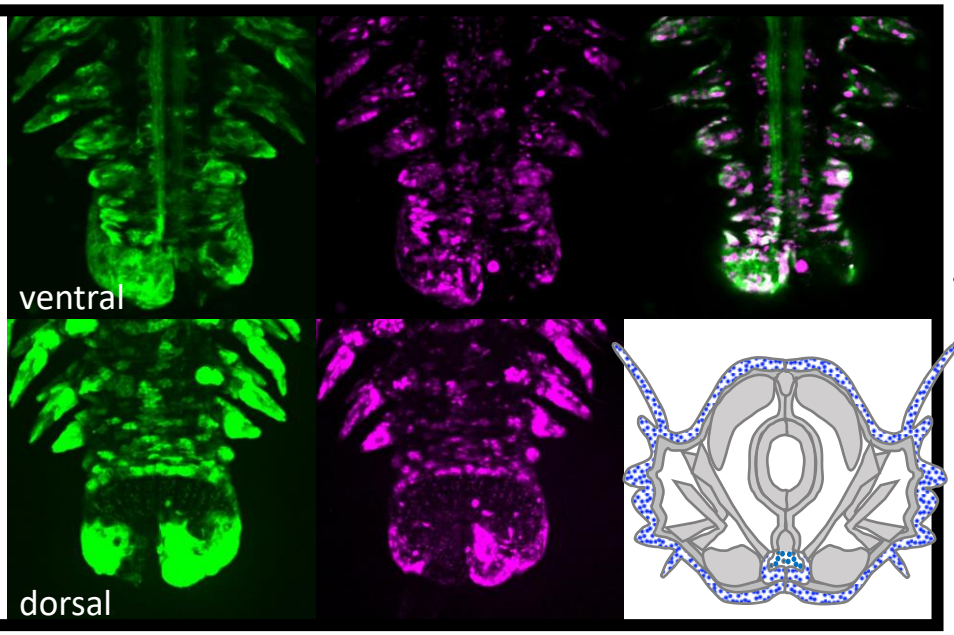
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

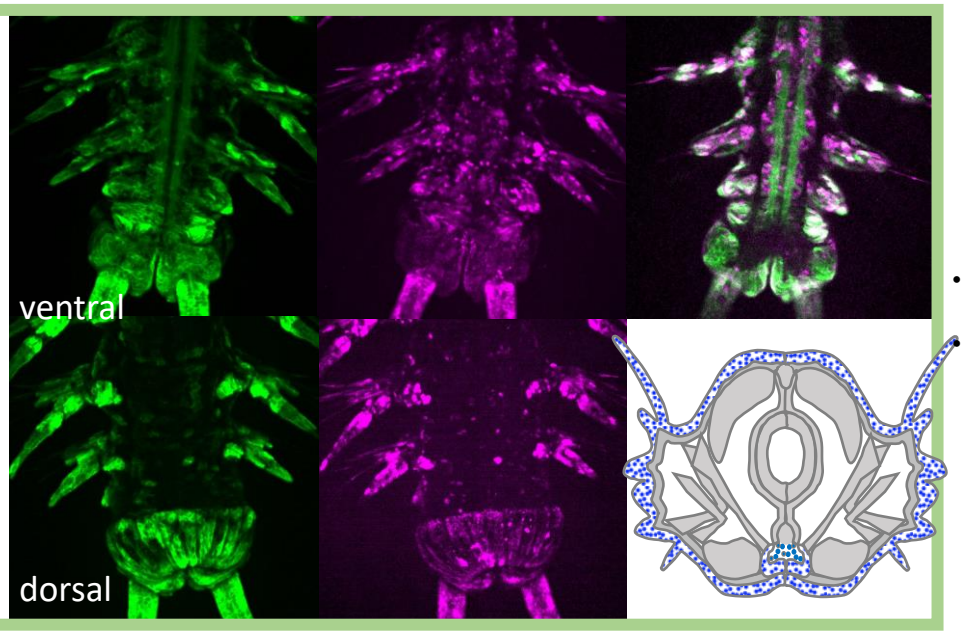
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



- Segmental ectoderm, variegated
- Pygidium ectoderm, partial

After 1st amputation-regeneration



- Segmental ectoderm, variegated
- Pygidium ectoderm, variegated

After 2nd amputation-regeneration

membranes
nuclei

N35

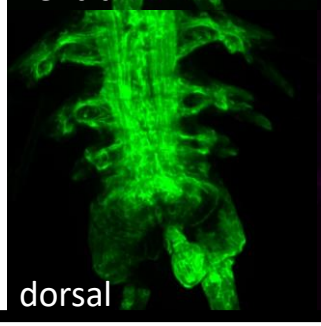
Full Z-projections

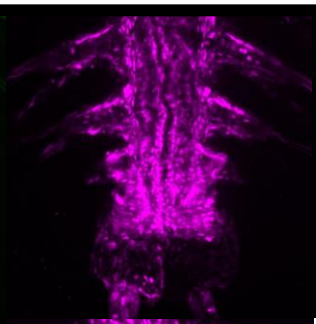
Frontal section
+ transverse scheme

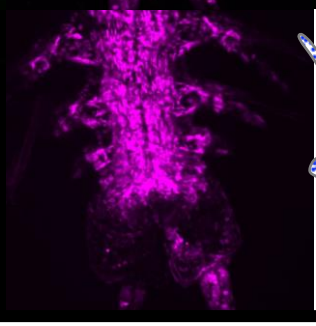
Transgenic tissues :

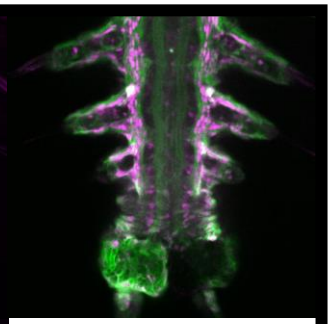
- ectoderm
- mesoderm
- endoderm

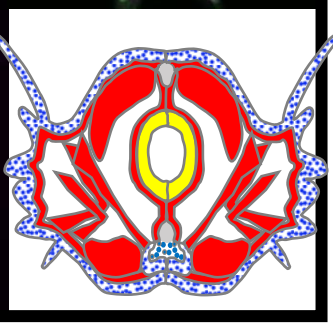
ORIGINAL TAIL (no regeneration)





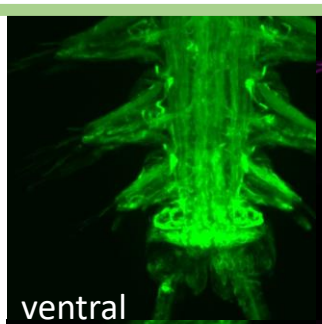


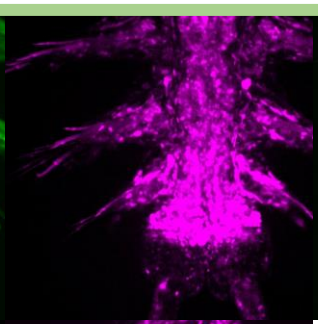


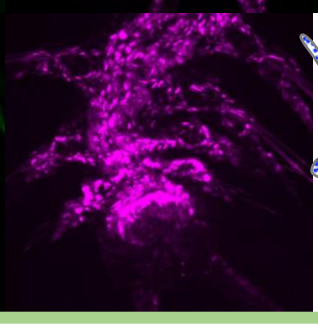


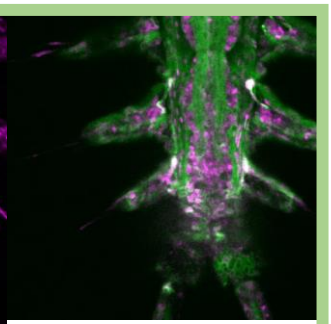
- Segmental ectoderm, very weak
- Pygidium ectoderm, partial
- Whole mesoderm
- Whole gut

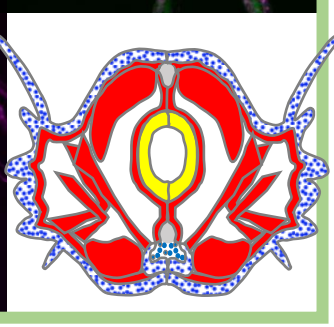
After 1st amputation-regeneration











- Segmental ectoderm, very weak
- Pygidium ectoderm, weak
- Whole mesoderm
- Whole gut

After 2nd amputation-regeneration

membranes
nuclei

N36

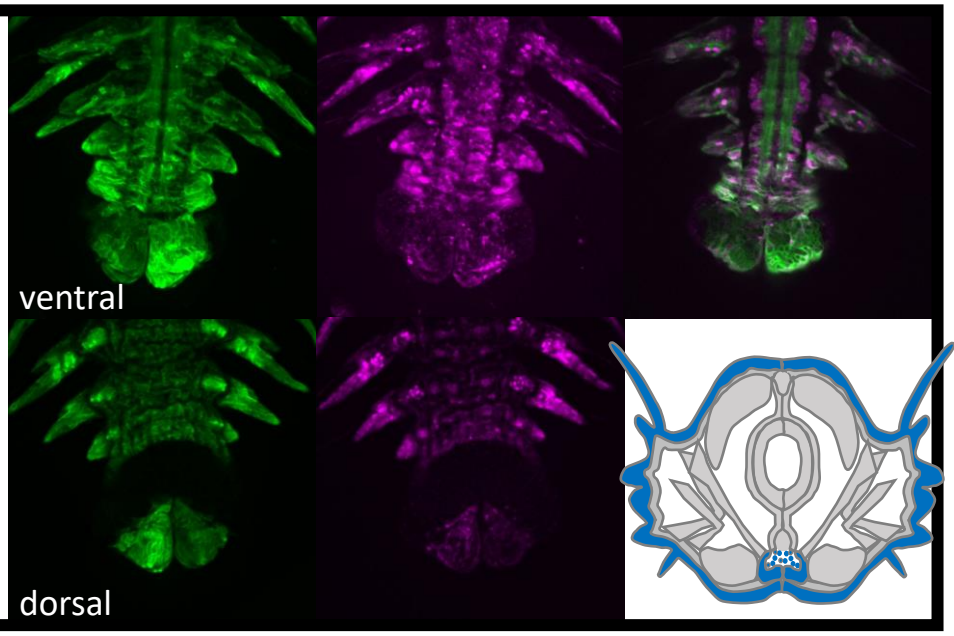
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

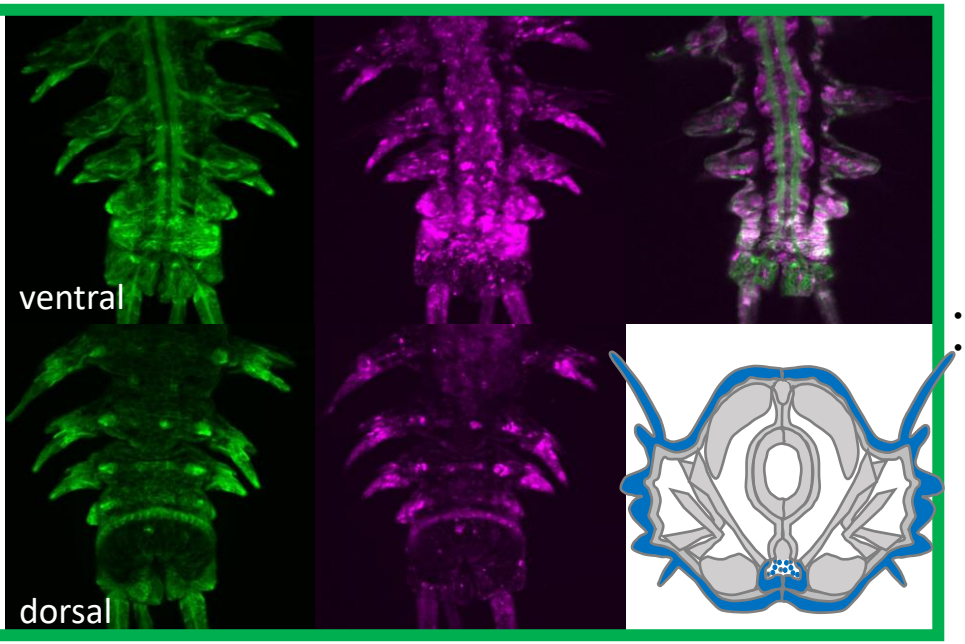
ORIGINAL TAIL
(no regeneration)



- Segmental ectoderm
- Pygidium ectoderm

After 1st amputation-regeneration

After 2nd amputation-regeneration



- Segmental ectoderm
- Pygidium ectoderm

membranes
nuclei

N38

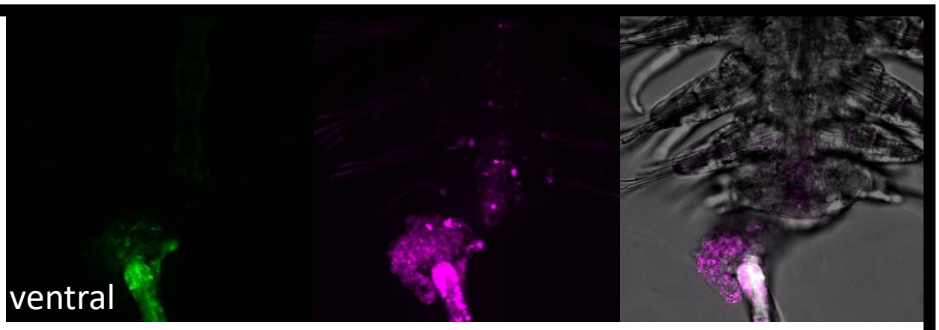
Full Z-projections

Frontal section + transverse scheme

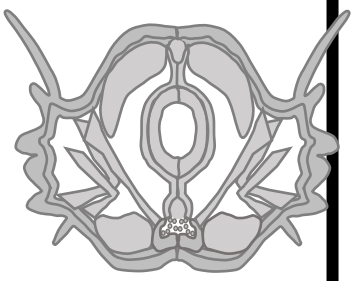
Transgenic tissues :

- **ectoderm**
- **mesoderm**
- **endoderm**

ORIGINAL TAIL (no regeneration)



No dorsal view



- **Pygidium ectoderm, partial**

After 1st amputation-regeneration

After 2nd amputation-regeneration

membranes
nuclei

N39

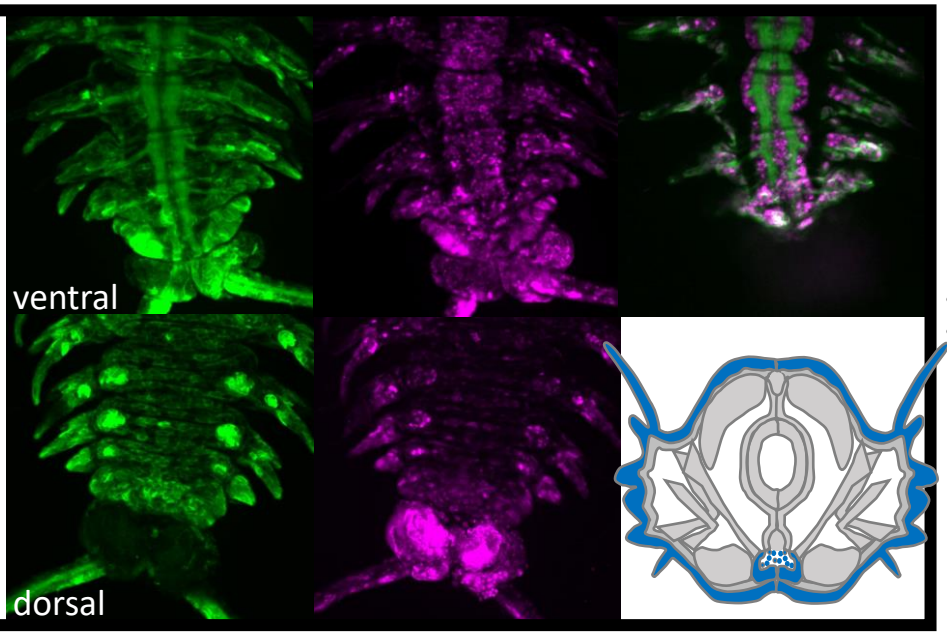
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

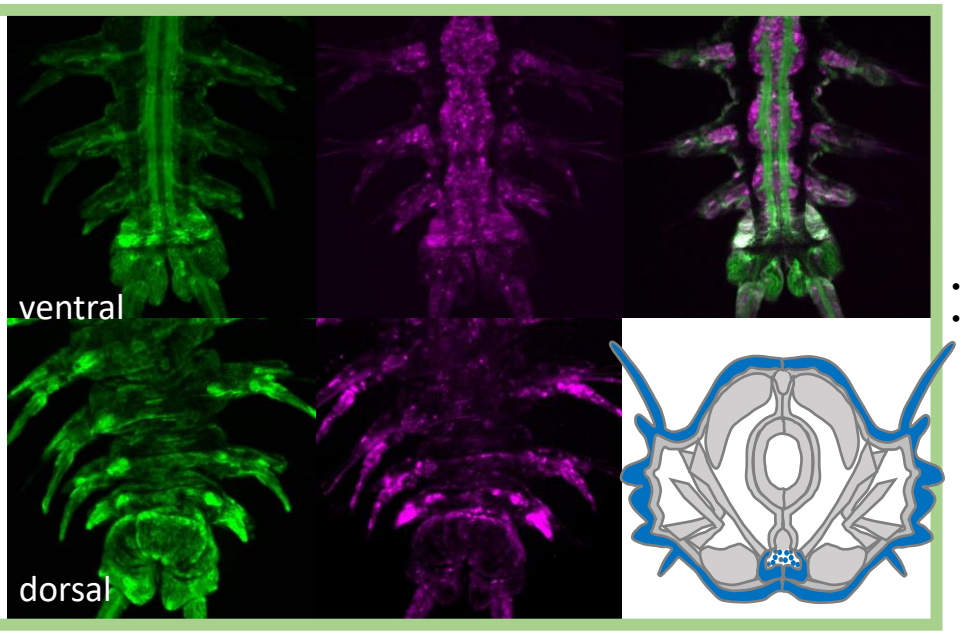
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



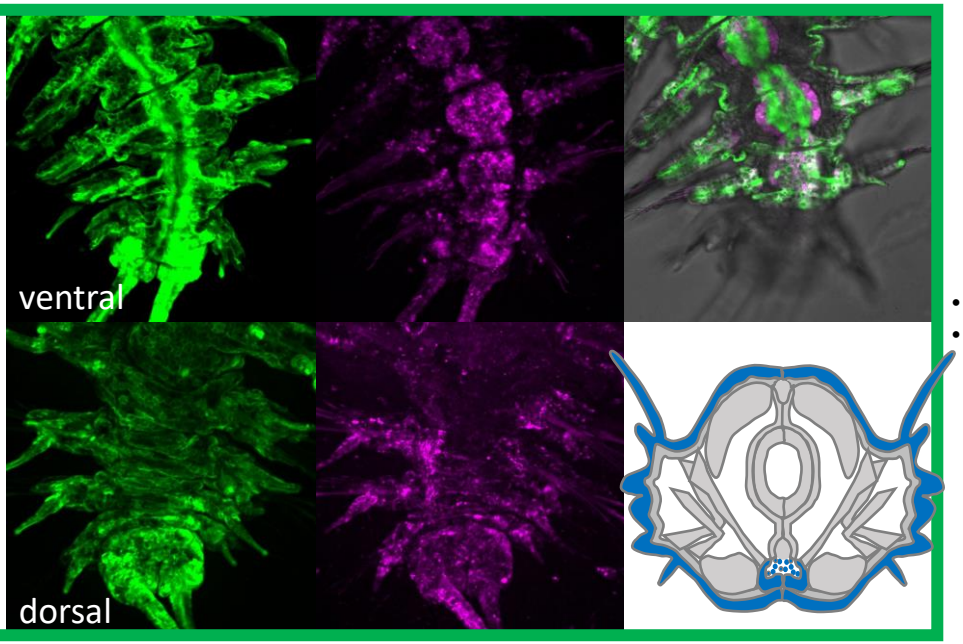
- Segmental ectoderm
- Pygidium ectoderm, partial

After 1st amputation-regeneration



- Segmental ectoderm
- Pygidium ectoderm

After 2nd amputation-regeneration



- Segmental ectoderm
- Pygidium ectoderm

membranes
nuclei

N40

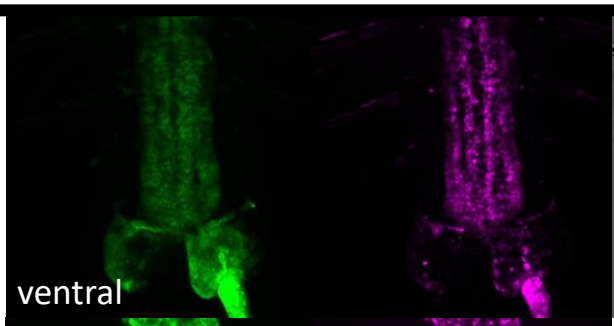
Full Z-projections

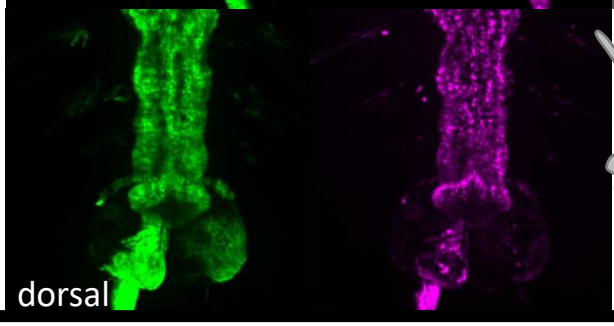
Frontal section
+ transverse scheme

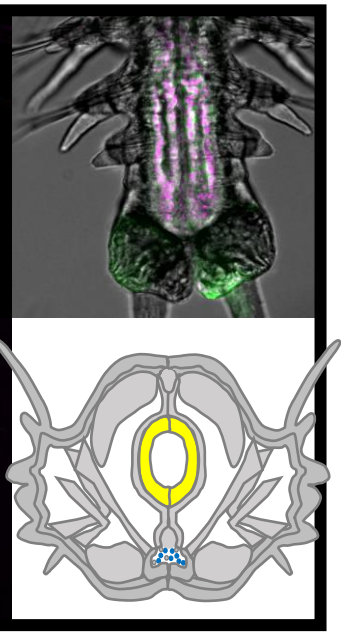
Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)

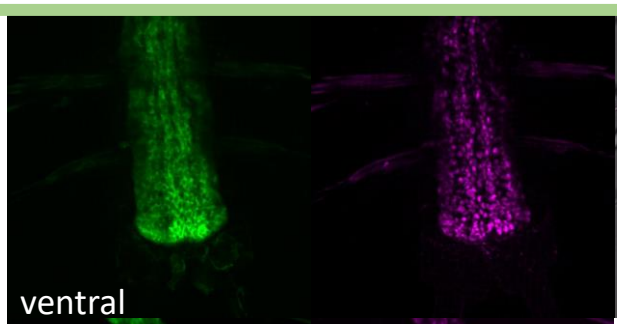


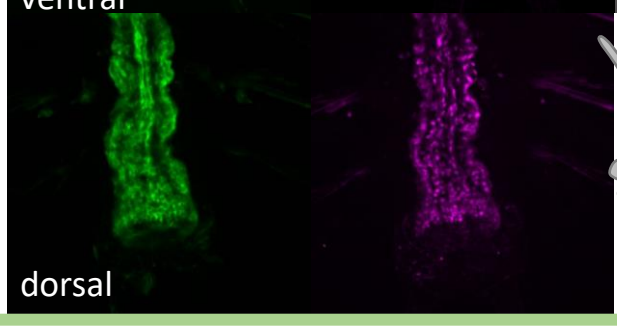




- Right median neural lineage
- Pygidium ectoderm, partial
- Whole endoderm

After 1st amputation-regeneration





- Whole endoderm

After 2nd amputation-regeneration

membranes
nuclei

O02

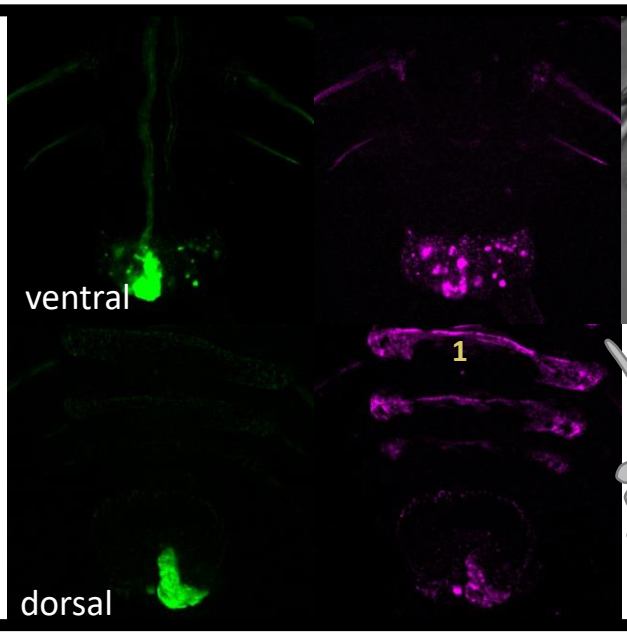
Full Z-projections

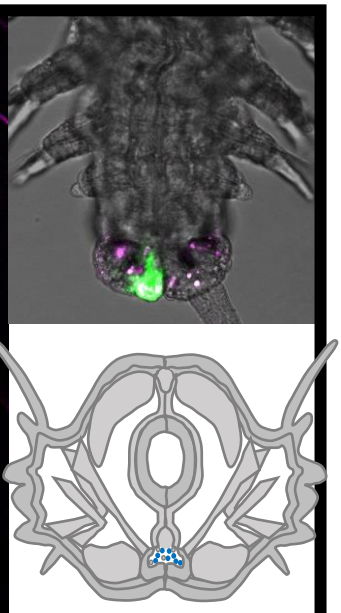
Frontal section
+ transverse scheme

Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

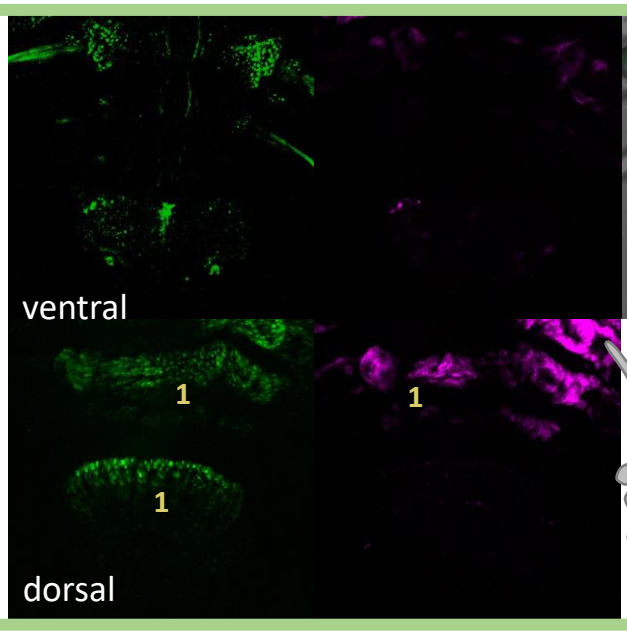
ORIGINAL TAIL (no regeneration)

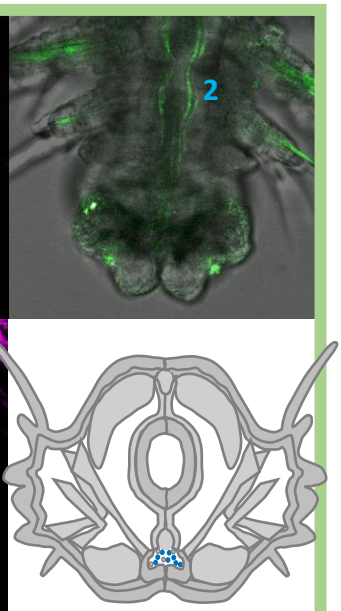




- Pygidium ectoderm, partial
- Autofluorescent cuticle in segment 1

After 1st amputation-regeneration





- Brain neurites 2
- Autofluorescent cuticle in segments and pygidium 1

After 2nd amputation-regeneration

membranes
nuclei

O04

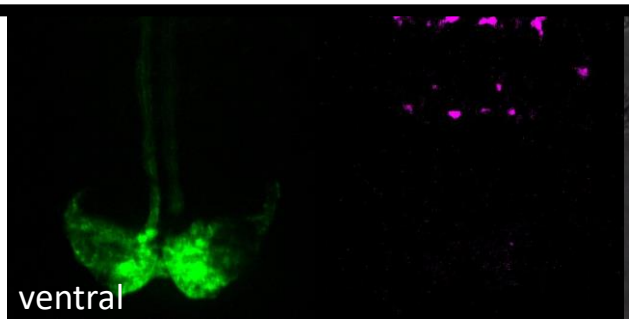
Full Z-projections

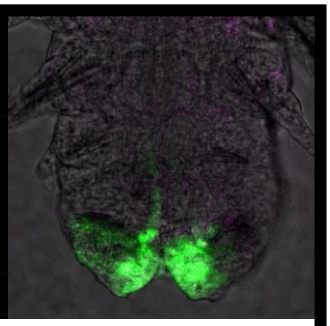
Frontal section
+ transverse scheme

Transgenic tissues :

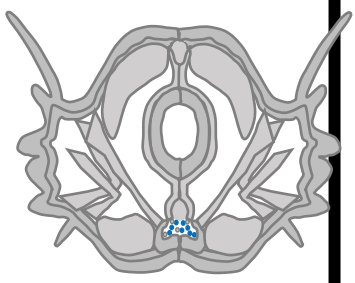
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



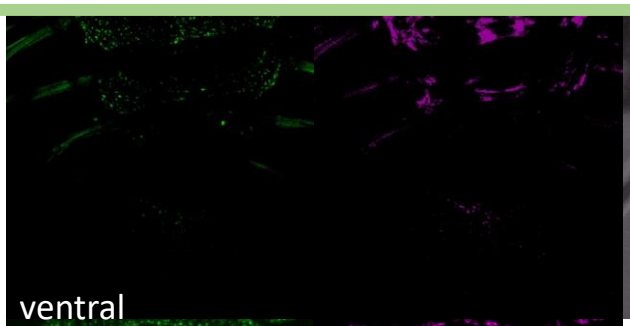


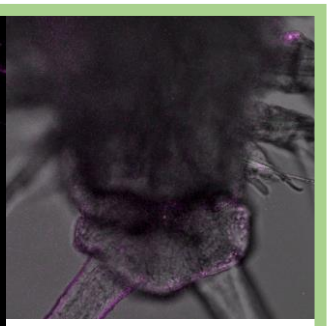
No dorsal view

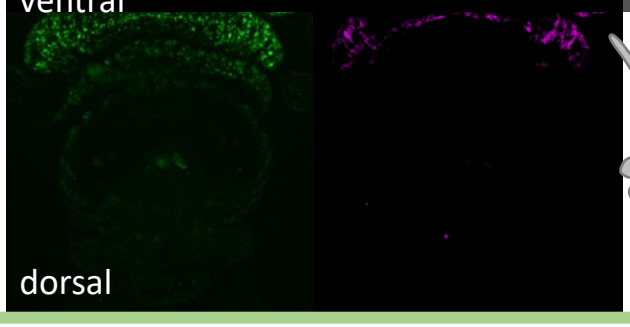


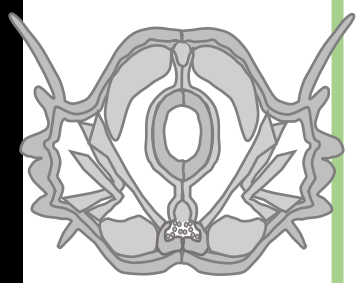
- Pygidium ectoderm, partial
- Autofluorescent cuticle in segments

After 1st amputation-regeneration









- Autofluorescent cuticle in segments

After 2nd amputation-regeneration

O06

membranes
nuclei

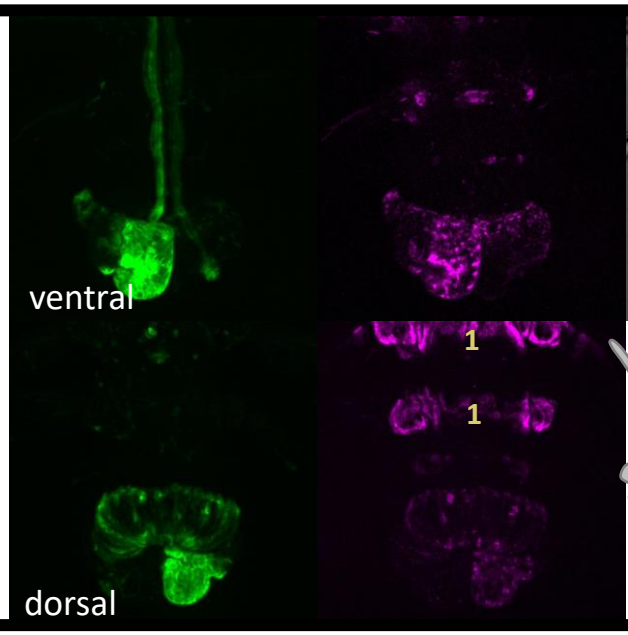
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

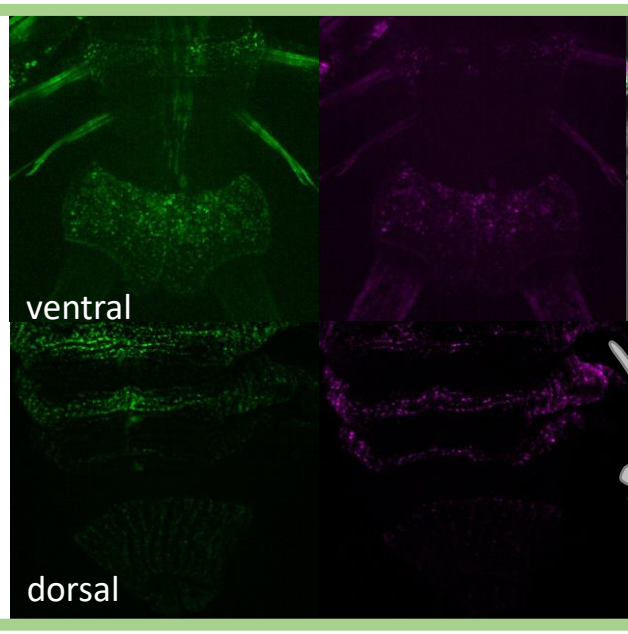
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



- Pygidium ectoderm, partial
- Autofluorescent cuticle in segments 1

After 1st amputation-regeneration



- Autofluorescent cuticle in segments and pygidium

After 2nd amputation-regeneration

membranes
nuclei

O07

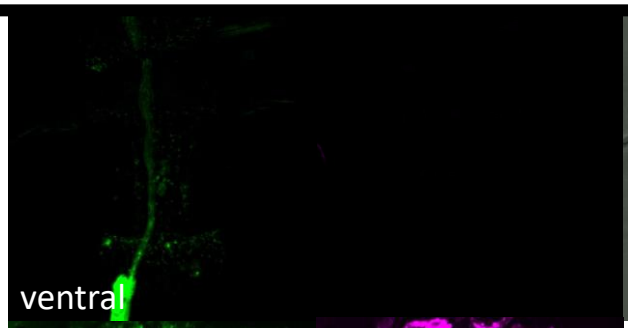
Full Z-projections

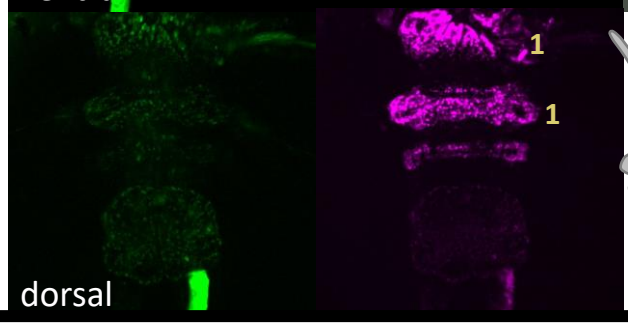
Frontal section
+ transverse scheme

Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

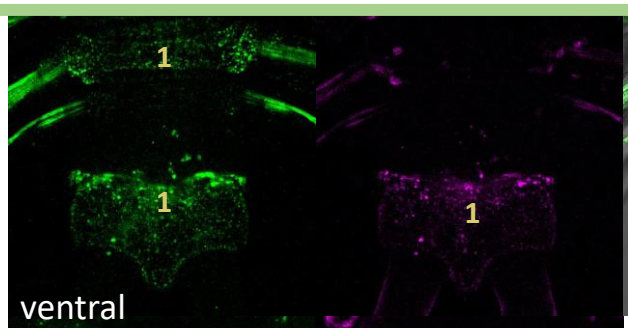
ORIGINAL TAIL (no regeneration)

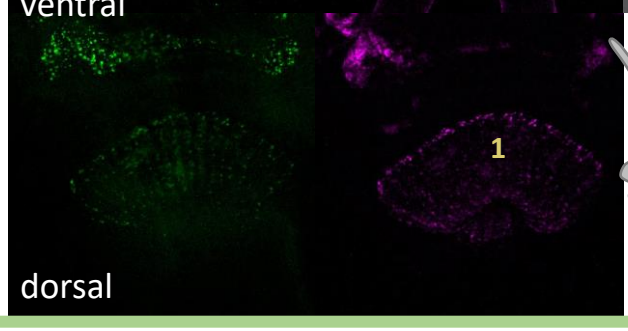




- Pygidium ectoderm, partial, right cirrus
- Autofluorescent cuticle in segments 1

After 1st amputation-regeneration





- Autofluorescent cuticle in segments and pygidium 1

After 2nd amputation-regeneration

membranes
nuclei

O08

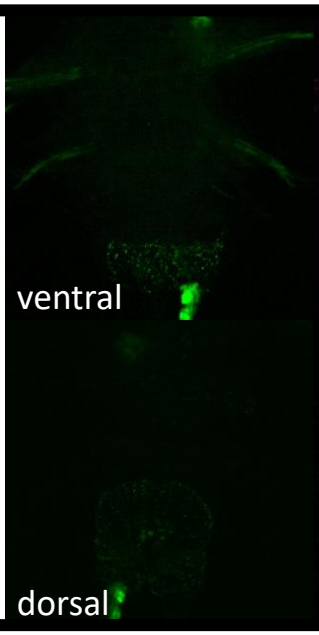
Full Z-projections

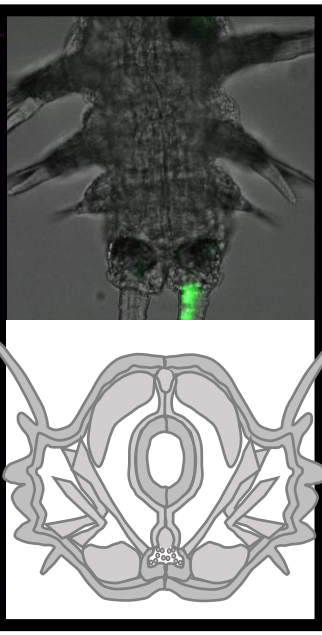
Frontal section
+ transverse scheme

Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

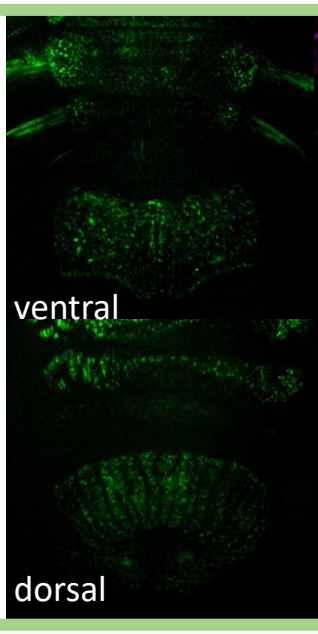
ORIGINAL TAIL (no regeneration)





- Pygidium ectoderm, left cirrus 1
- Autofluorescent cuticle in segments and pygidium

After 1st amputation-regeneration



- Autofluorescent cuticle in segments and pygidium

After 2nd amputation-regeneration

membranes
nuclei

O09

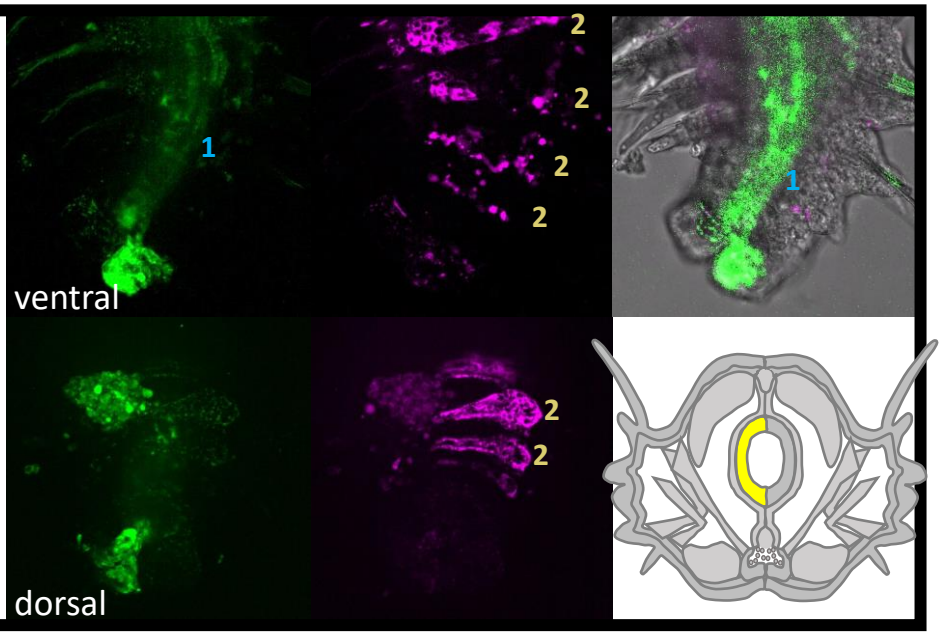
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

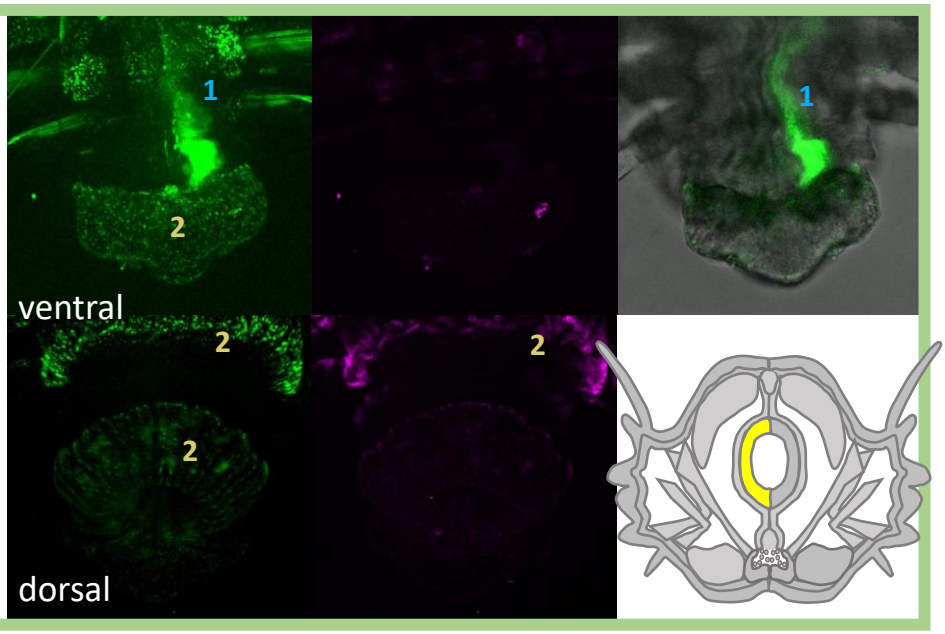
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



- Pygidium ectoderm, partial
- Left endoderm 1
- Autofluorescent cuticle in segments 2

After 1st amputation-regeneration



- Left endoderm 1
- Autofluorescent cuticle in segments and pugidium 2

After 2nd amputation-regeneration

membranes
nuclei

O15

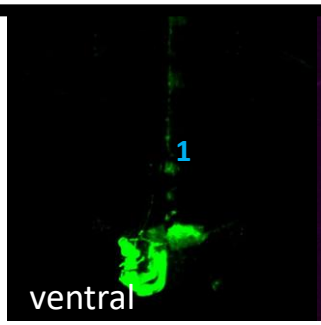
Full Z-projections

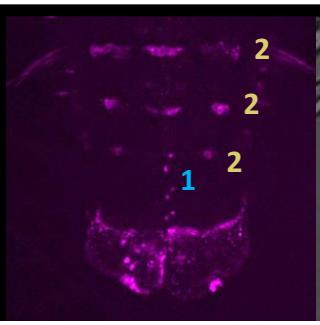
Frontal section
+ transverse scheme

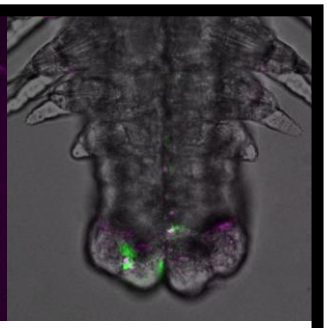
Transgenic tissues :

- ectoderm
- mesoderm
- endoderm

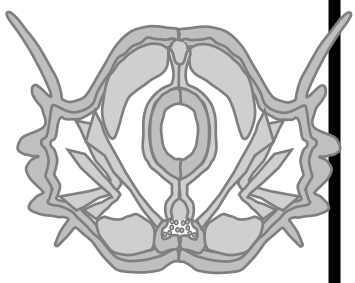
ORIGINAL TAIL (no regeneration)





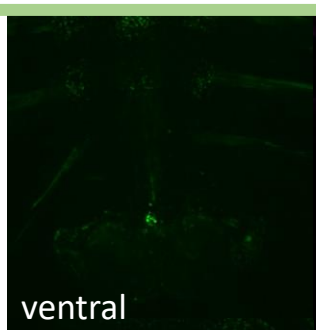


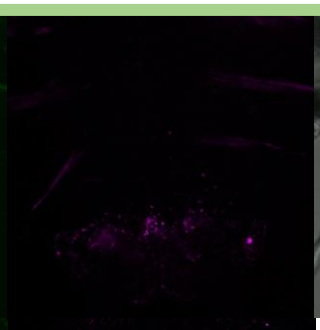
No dorsal view

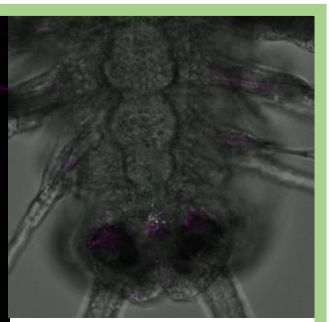


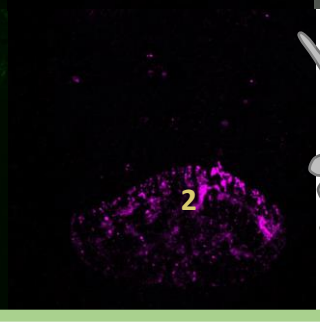
- Pygidium ectoderm, partial
- Left median neural lineage 1
- Autofluorescent cuticle in segments and pugidium 2

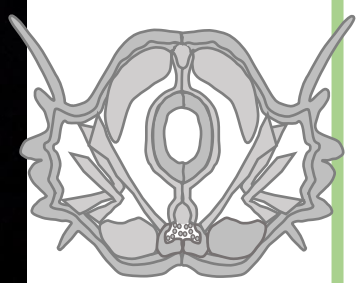
After 1st amputation-regeneration











- Autofluorescent cuticle in segments and pugidium 2

After 2nd amputation-regeneration

membranes
nuclei

O16

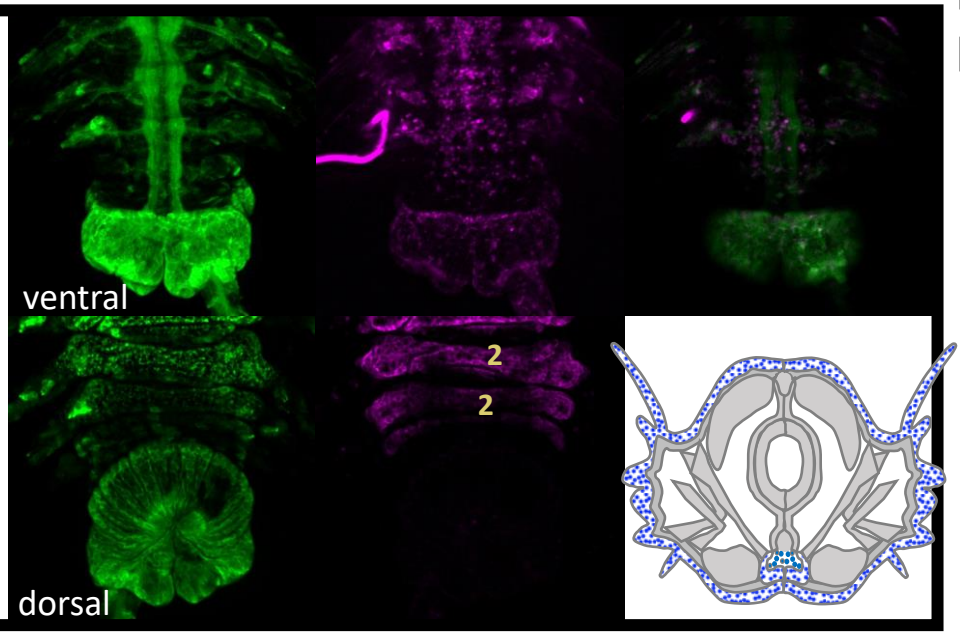
Full Z-projections

Frontal section
+ transverse scheme

Transgenic tissues :

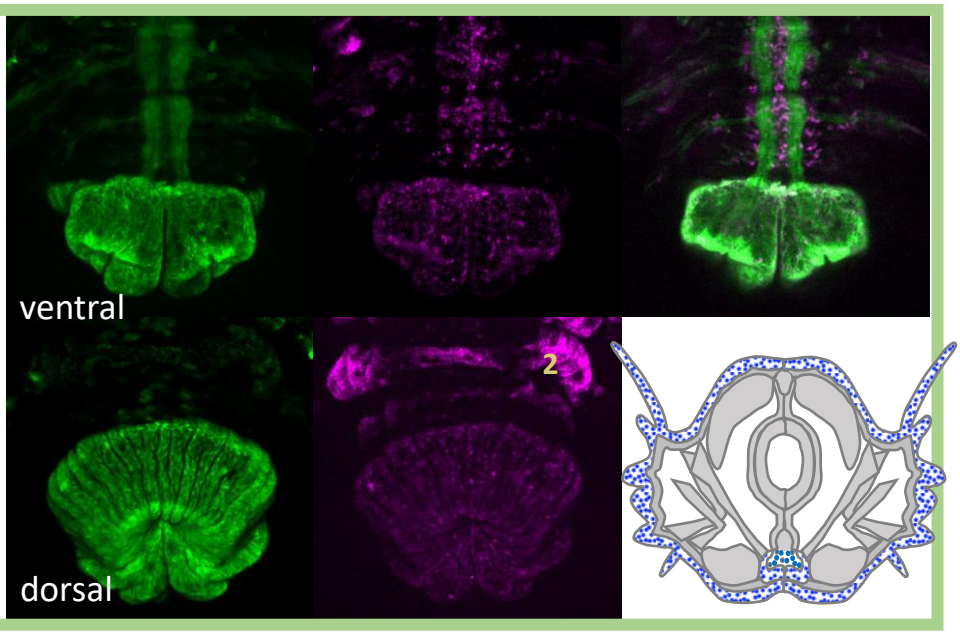
- ectoderm
- mesoderm
- endoderm

ORIGINAL TAIL (no regeneration)



- Segmental ectoderm, weak, mostly nerves
- Pygidium ectoderm
- Autofluorescent cuticle in segments and pugidium 2

After 1st amputation-regeneration



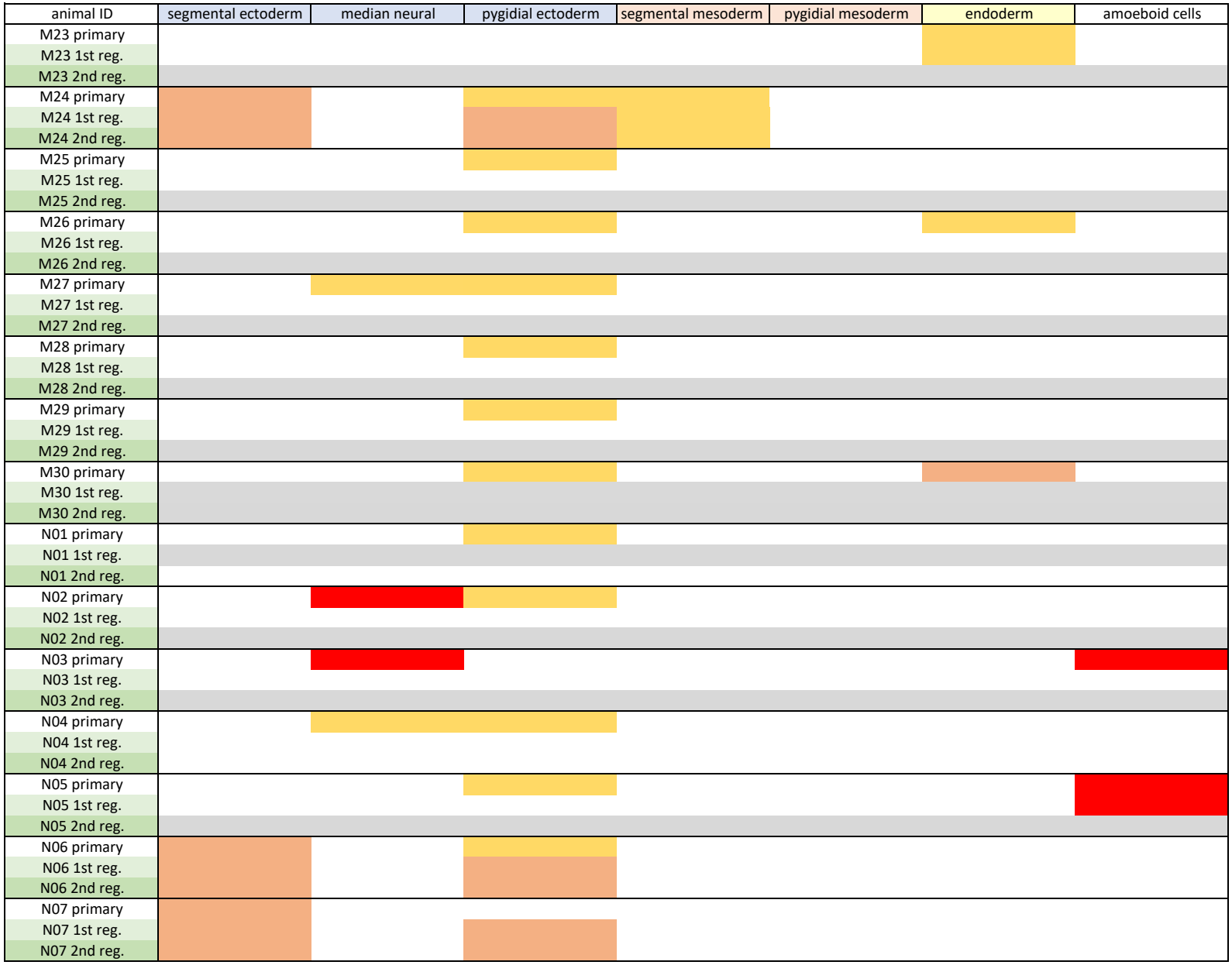
- Segmental ectoderm, very weak
- Pygidium ectoderm
- Autofluorescent cuticle in segments and pugidium 2

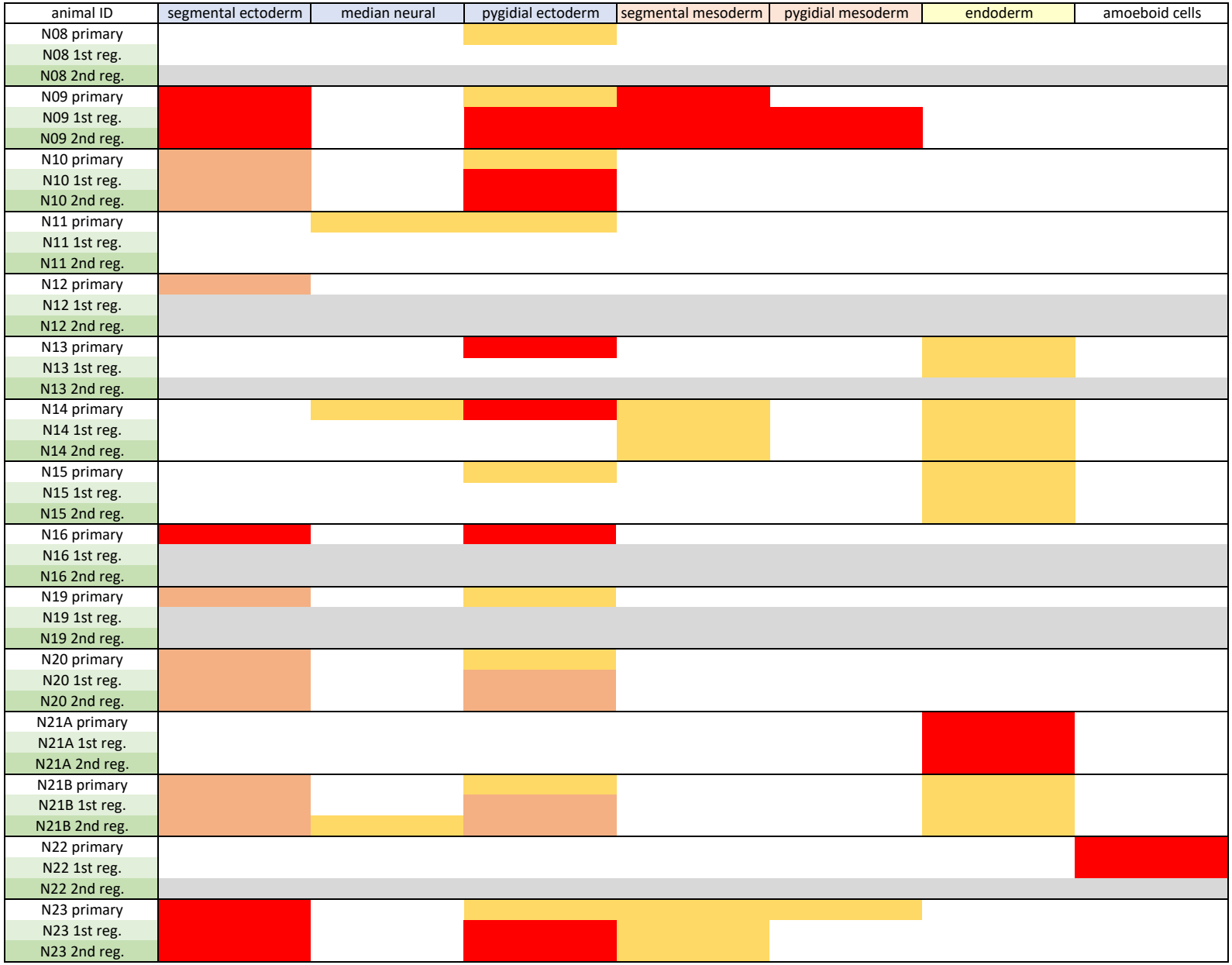
After 2nd amputation-regeneration

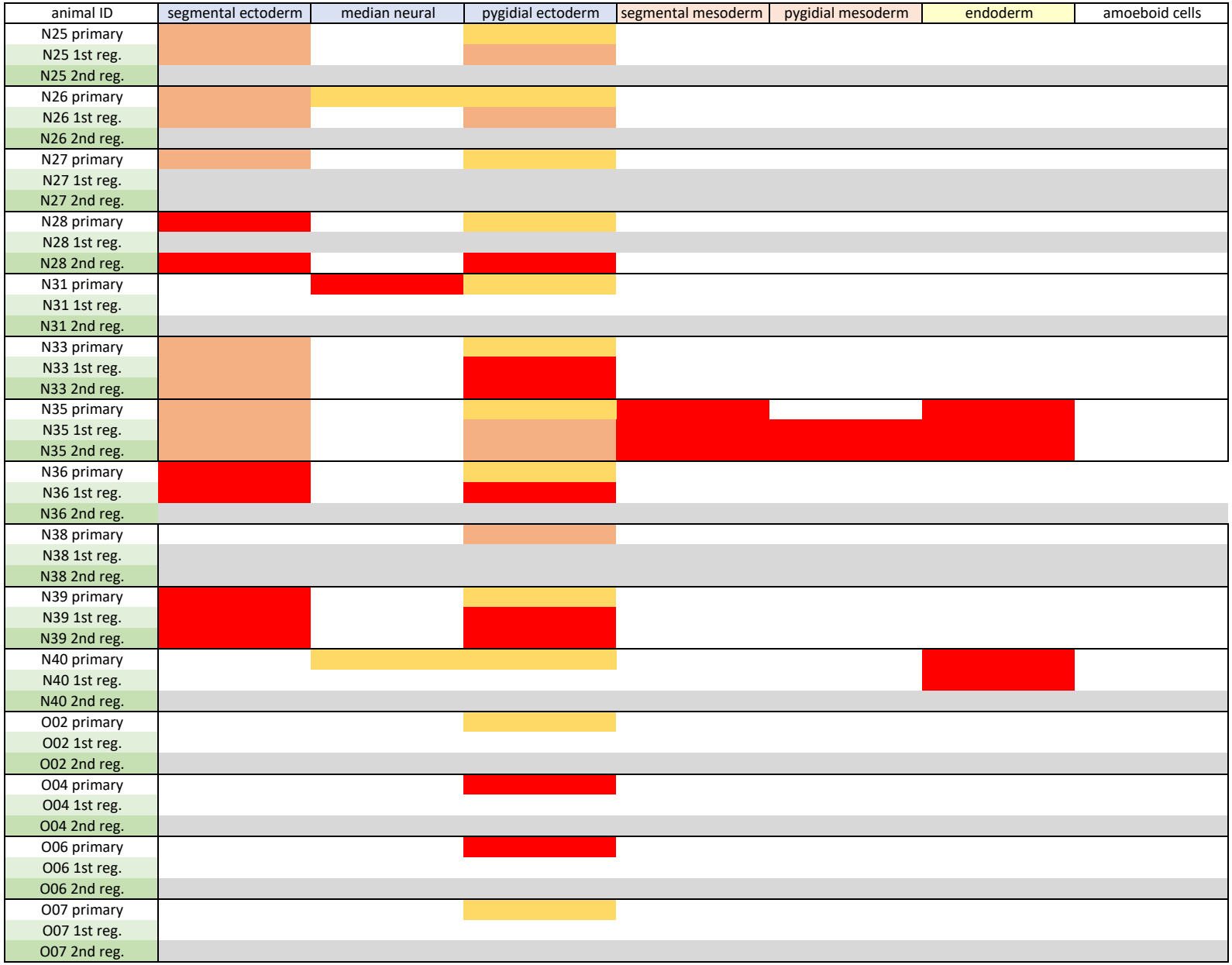
Supplementary data file 7, transgenic clones, part C

data absent | ubiquitous expression | stochastic expression | partially transgenic

animal ID	segmental ectoderm	median neural	pygidial ectoderm	segmental mesoderm	pygidial mesoderm	endoderm	amoeboid cells
M01 primary							
M01 1st reg.	ubiquitous		ubiquitous			ubiquitous	
M01 2nd reg.	ubiquitous		ubiquitous			ubiquitous	
M03 primary							
M03 1st reg.				ubiquitous	ubiquitous	ubiquitous	
M03 2nd reg.				ubiquitous	ubiquitous	ubiquitous	
M05 primary	stochastic		partially transgenic			partially transgenic	
M05 1st reg.	stochastic		stochastic			partially transgenic	
M05 2nd reg.	stochastic		stochastic			partially transgenic	
M07 primary	stochastic						
M07 1st reg.	stochastic		ubiquitous				
M07 2nd reg.	stochastic		ubiquitous				
M08 primary			partially transgenic				
M08 1st reg.							
M08 2nd reg.							
M09 primary		partially transgenic	partially transgenic				ubiquitous
M09 1st reg.							
M09 2nd reg.							
M10 primary		partially transgenic	partially transgenic				
M10 1st reg.							
M10 2nd reg.							
M11 primary	stochastic		partially transgenic			partially transgenic	
M11 1st reg.	stochastic		stochastic			partially transgenic	
M11 2nd reg.	stochastic		stochastic			partially transgenic	
M15 primary			partially transgenic			partially transgenic	
M15 1st reg.						partially transgenic	
M15 2nd reg.							
M18 primary	stochastic		stochastic				
M18 1st reg.							
M18 2nd reg.							
M19 primary	stochastic		partially transgenic				
M19 1st reg.							
M19 2nd reg.	stochastic		stochastic				
M20 primary	stochastic	ubiquitous	ubiquitous				
M20 1st reg.							
M20 2nd reg.							
M21 primary	stochastic		partially transgenic			stochastic	
M21 1st reg.	stochastic		stochastic			stochastic	
M21 2nd reg.	stochastic		stochastic			stochastic	
M22 primary	partially transgenic		partially transgenic				
M22 1st reg.	partially transgenic		partially transgenic				
M22 2nd reg.							


animal ID
segmental ectoderm
median neural
pygidial ectoderm
segmental mesoderm
pygidial mesoderm
endoderm
amoeboid cells
M23 primary
M23 1st reg.
M23 2nd reg.
M24 primary
M24 1st reg.
M24 2nd reg.
M25 primary
M25 1st reg.
M25 2nd reg.
M26 primary
M26 1st reg.
M26 2nd reg.
M27 primary
M27 1st reg.
M27 2nd reg.
M28 primary
M28 1st reg.
M28 2nd reg.
M29 primary
M29 1st reg.
M29 2nd reg.
M30 primary
M30 1st reg.
M30 2nd reg.
N01 primary
N01 1st reg.
N01 2nd reg.
N02 primary
N02 1st reg.
N02 2nd reg.
N03 primary
N03 1st reg.
N03 2nd reg.
N04 primary
N04 1st reg.
N04 2nd reg.
N05 primary
N05 1st reg.
N05 2nd reg.
N06 primary
N06 1st reg.
N06 2nd reg.
N07 primary
N07 1st reg.
N07 2nd reg.


animal ID
segmental ectoderm
median neural
pygidial ectoderm
segmental mesoderm
pygidial mesoderm
endoderm
amoeboid cells
N08 primary
N08 1st reg.
N08 2nd reg.
N09 primary
N09 1st reg.
N09 2nd reg.
N10 primary
N10 1st reg.
N10 2nd reg.
N11 primary
N11 1st reg.
N11 2nd reg.
N12 primary
N12 1st reg.
N12 2nd reg.
N13 primary
N13 1st reg.
N13 2nd reg.
N14 primary
N14 1st reg.
N14 2nd reg.
N15 primary
N15 1st reg.
N15 2nd reg.
N16 primary
N16 1st reg.
N16 2nd reg.
N19 primary
N19 1st reg.
N19 2nd reg.
N20 primary
N20 1st reg.
N20 2nd reg.
N21A primary
N21A 1st reg.
N21A 2nd reg.
N21B primary
N21B 1st reg.
N21B 2nd reg.
N22 primary
N22 1st reg.
N22 2nd reg.
N23 primary
N23 1st reg.
N23 2nd reg.


animal ID
segmental ectoderm
median neural
pygidial ectoderm
segmental mesoderm
pygidial mesoderm
endoderm
amoeboid cells
N25 primary
N25 1st reg.
N25 2nd reg.
N26 primary
N26 1st reg.
N26 2nd reg.
N27 primary
N27 1st reg.
N27 2nd reg.
N28 primary
N28 1st reg.
N28 2nd reg.
N31 primary
N31 1st reg.
N31 2nd reg.
N33 primary
N33 1st reg.
N33 2nd reg.
N35 primary
N35 1st reg.
N35 2nd reg.
N36 primary
N36 1st reg.
N36 2nd reg.
N38 primary
N38 1st reg.
N38 2nd reg.
N39 primary
N39 1st reg.
N39 2nd reg.
N40 primary
N40 1st reg.
N40 2nd reg.
O02 primary
O02 1st reg.
O02 2nd reg.
O04 primary
O04 1st reg.
O04 2nd reg.
O06 primary
O06 1st reg.
O06 2nd reg.
O07 primary
O07 1st reg.
O07 2nd reg.

animal ID	segmental ectoderm	median neural	pygidial ectoderm	segmental mesoderm	pygidial mesoderm	endoderm	amoeboid cells
O08 primary							
O08 1st reg.							
O08 2nd reg.							
O09 primary							
O09 1st reg.							
O09 2nd reg.							
O15 primary							
O15 1st reg.							
O15 2nd reg.							
O16 primary							
O16 1st reg.							
O16 2nd reg.							

Missing data are mostly due to adults maturing prematurely or dying accidentally

Frequency of patterns (= primary clones)

	segmental ectoderm	median neural	pygidial ectoderm	segmental mesoderm	pygidial mesoderm	endoderm	amoeboid cells
ubiquitous expression	7	4	6	3		4	
stochastic expression	21		1			2	4
partially transgenic	1	9	46	3	1	10	
Total	29	13	53	6	1	16	4

Total positive	Total survivors
62	87

Transmission of transgenic expression through regeneration

		segmental ectoderm before regeneration	segmental ectoderm after regeneration
segmental ectoderm	transgenic	39	39
	non transgenic	38	38
		pygidial ectoderm before regeneration	pygidial ectoderm after regeneration
segmental ectoderm	transgenic	39	39
	non transgenic	38	38
		before regeneration	after regeneration
segmental mesoderm	transgenic	11	11
	non transgenic	66	66
		before regeneration	after regeneration
endoderm	transgenic	23	22
	non transgenic	54	54

Total experiments
77