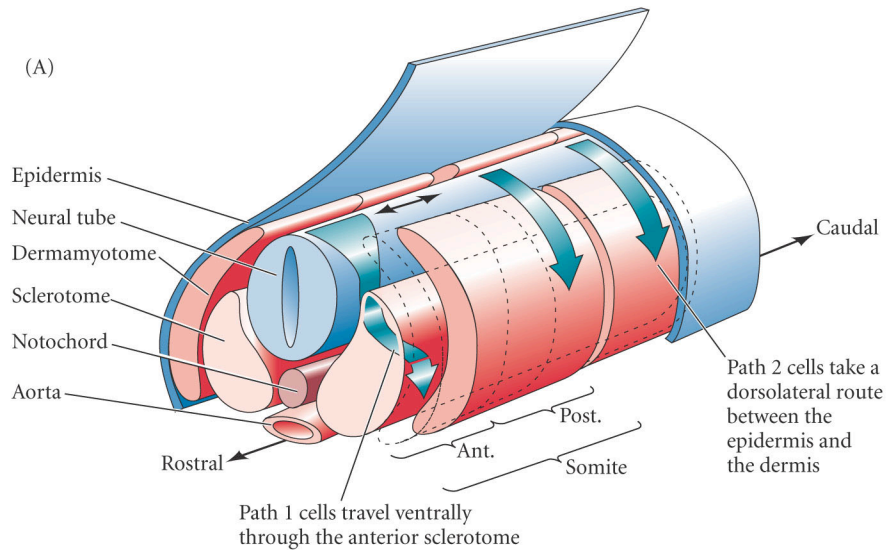

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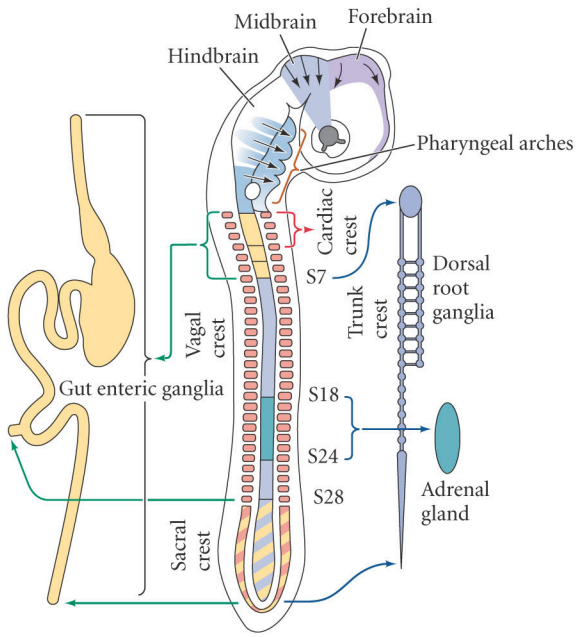

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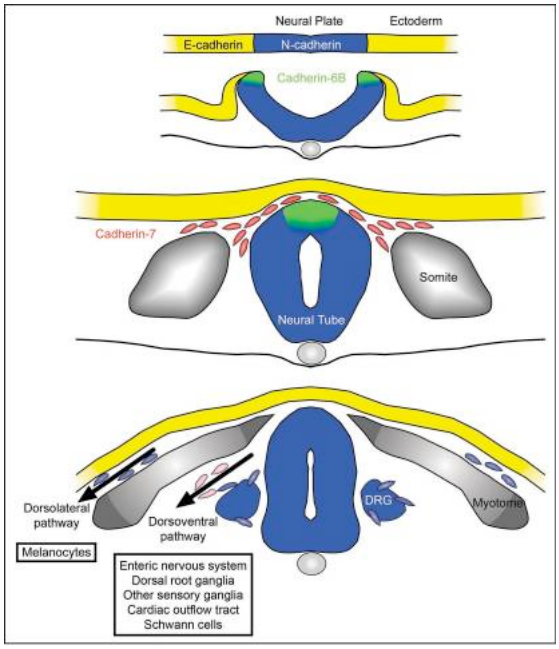
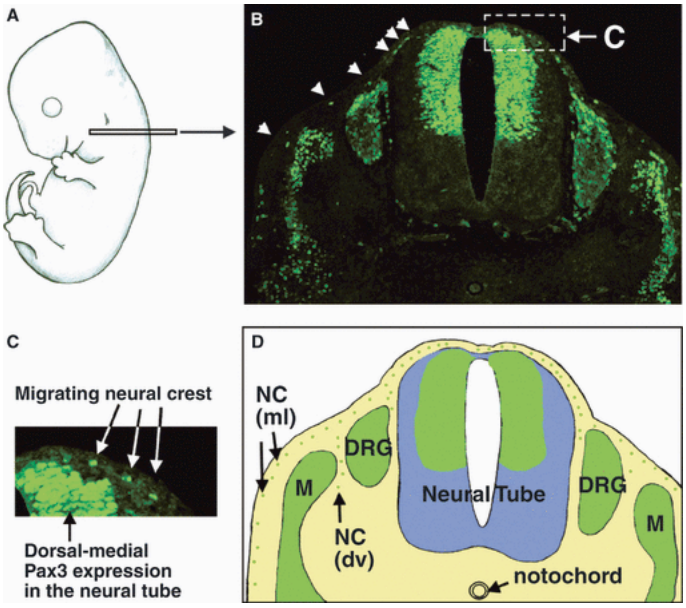
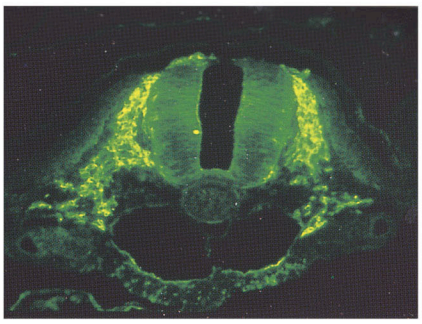
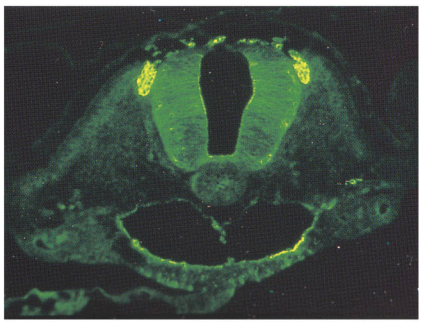

Neural Plate
Ectoderm
E-cadherin
N-cadherin
Cadherin-6B
Cadherin-7
Somite
Neural Tube
Dorsolateral pathway
Dorsoventral pathway
DRG
Myotome
Melanocytes
Enteric nervous system
Dorsal root ganglia
Other sensory ganglia
Cardiac outflow tract
Schwann cells


A
B
C
C
Migrating neural crest
Dorsal-medial
Pax3 expression
in the neural tube
D
NC
(ml)
DRG
M
Neural Tube
DRG
M
NC
(dv)
notochord

(C) Anterior: extensive migration



(D) Posterior: no migration



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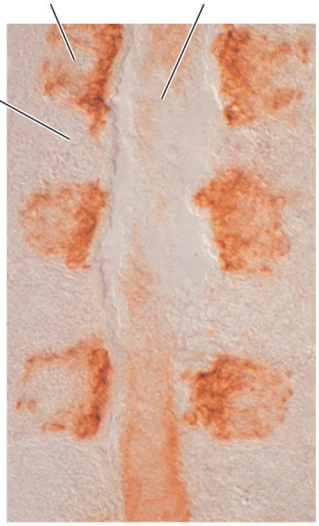
(B)



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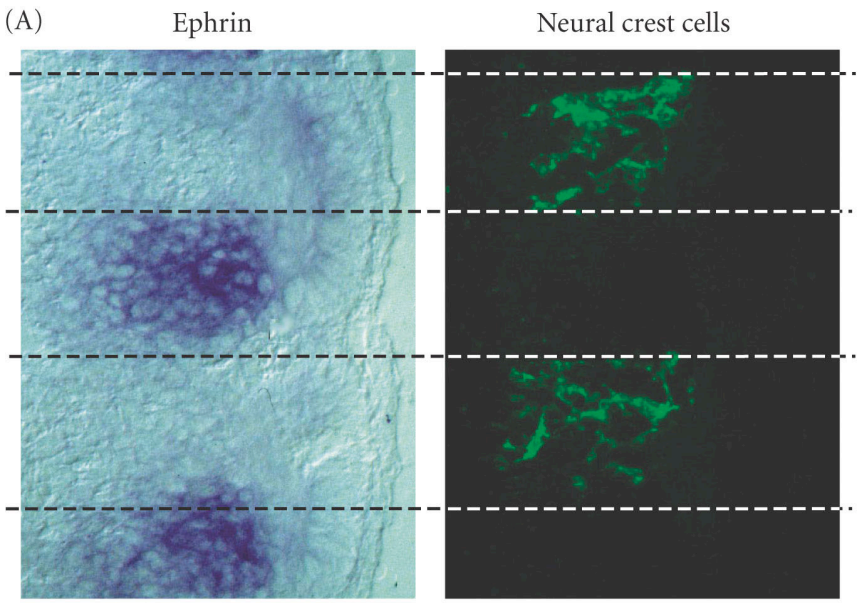
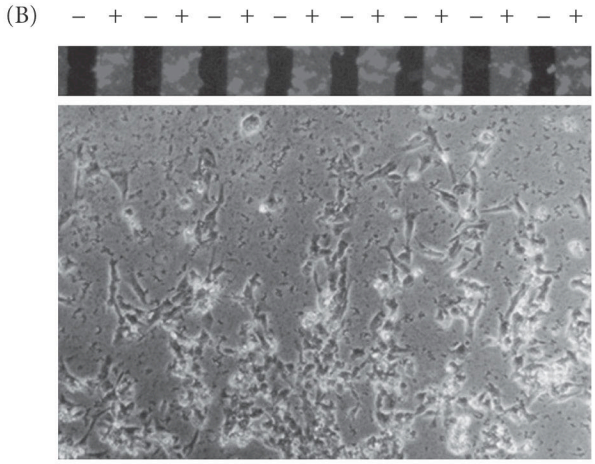


DEVELOPMENTAL BIOLOGY, Eighth Edition, **Figure 13.5 (Part 1)** © 2006 Sinauer Associates, Inc.



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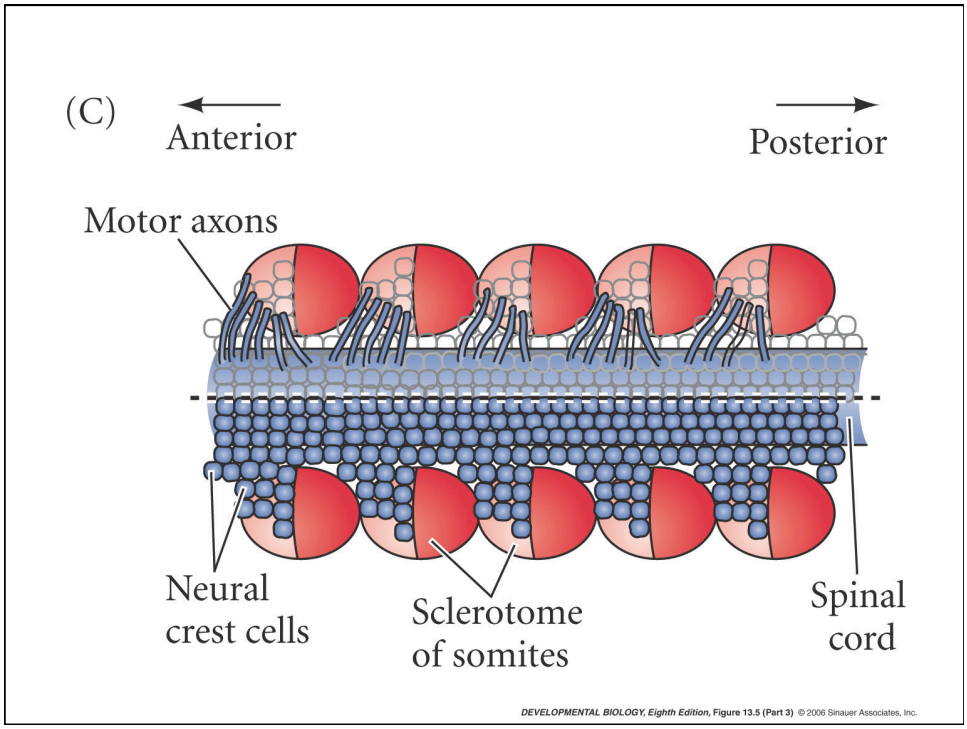
(C)
Anterior
Posterior
Motor axons
Neural crest cells
Sclerotome of somites
Spinal cord
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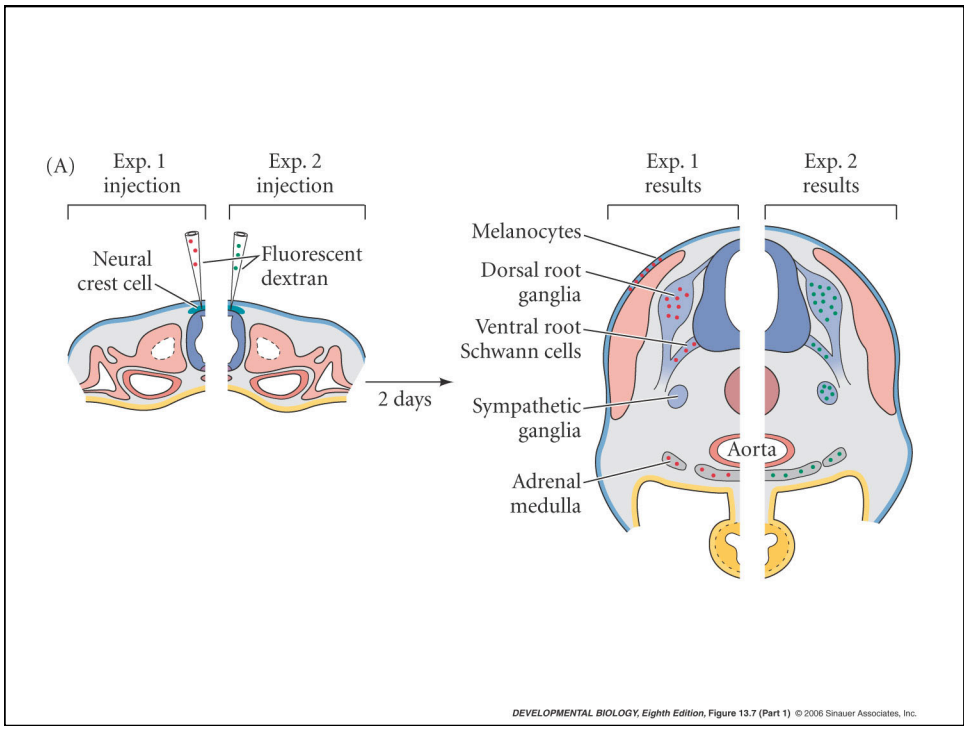
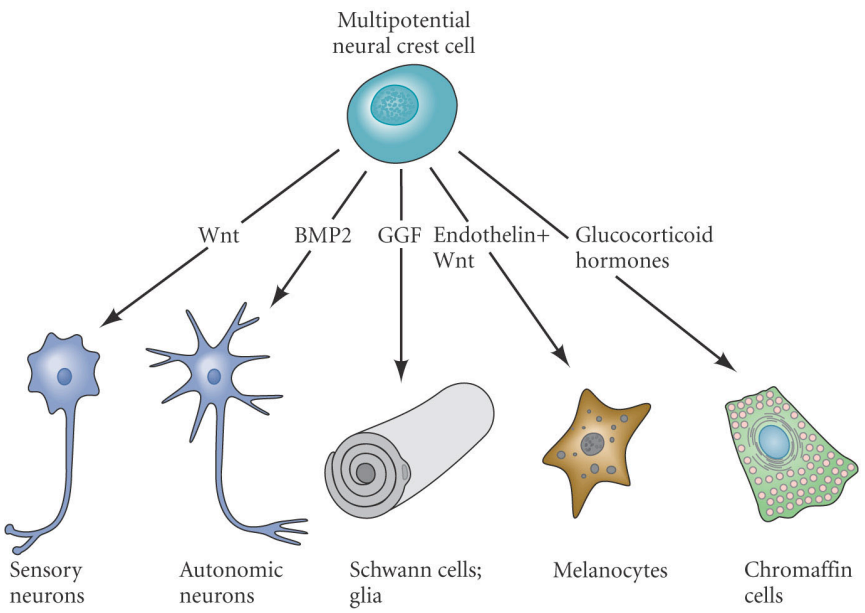

(A)
Exp. 1 injection
Exp. 2 injection
Neural crest cell
Fluorescent dextran
2 days
Exp. 1 results
Exp. 2 results
Melanocytes
Dorsal root ganglia
Ventral root Schwann cells
Sympathetic ganglia
Aorta
Adrenal medulla
DEVELOPMENTAL BIOLOGY, Eighth Edition, Figure 13.7 (Part 1) © 2006 Sinauer Associates, Inc.



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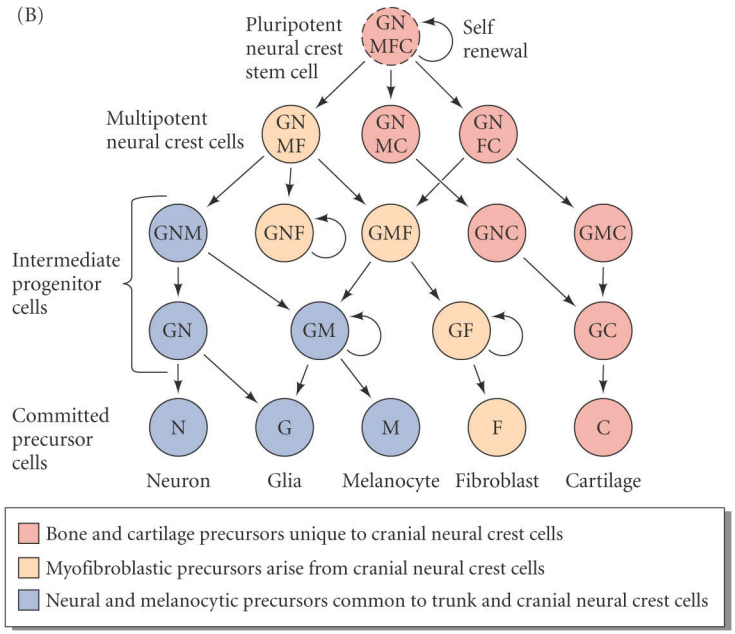

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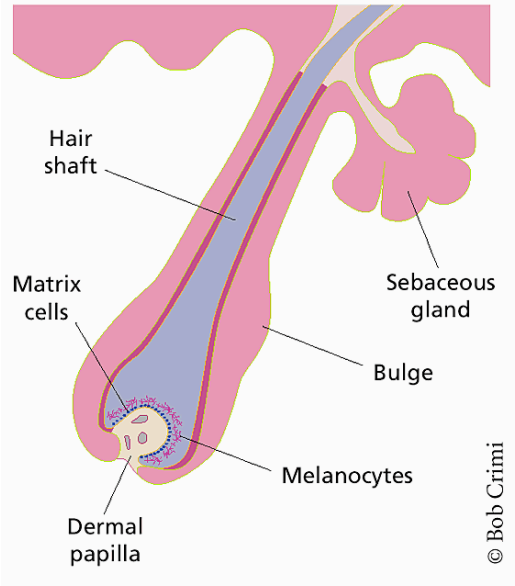
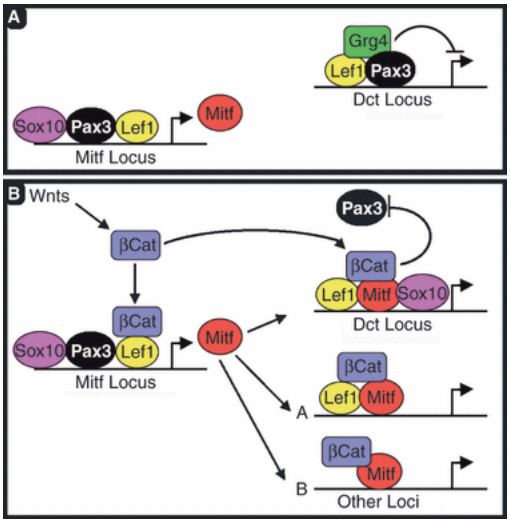
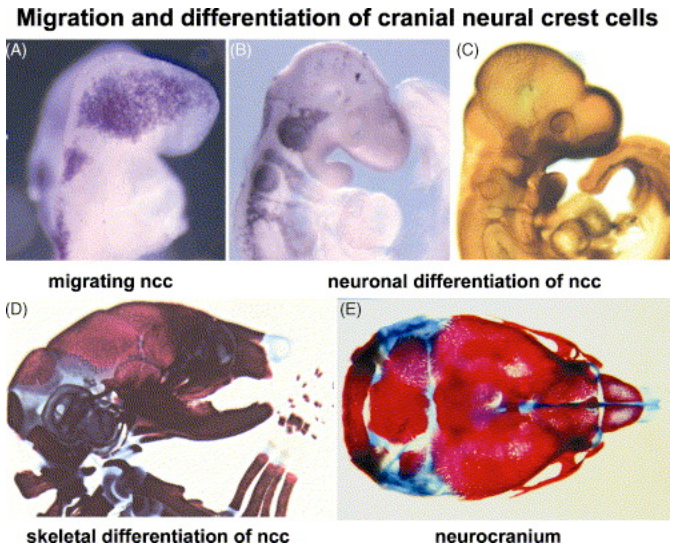
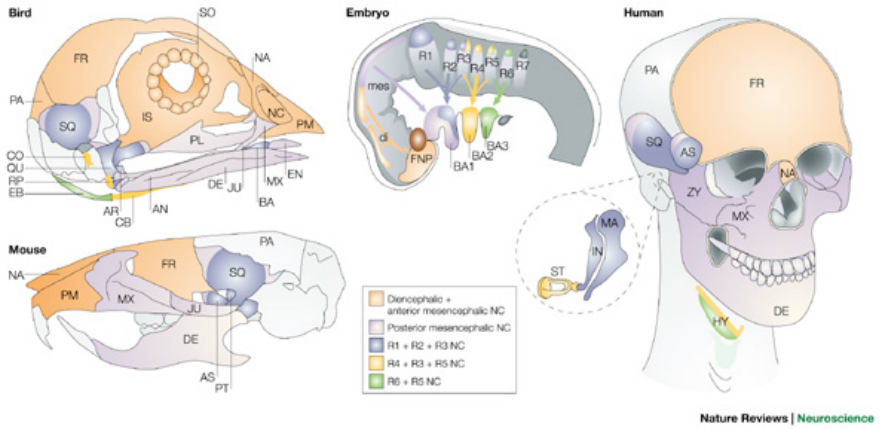
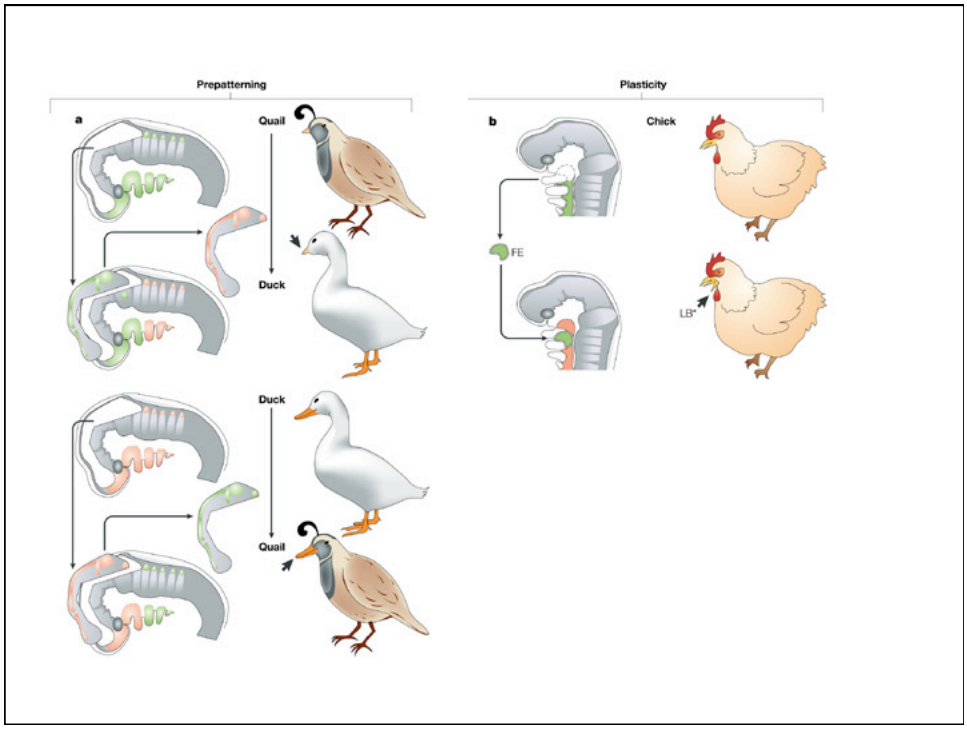

Hair shaft
Matrix cells
Sebaceous gland
Bulge
Melanocytes
Dermal papilla
© Bob Crimi


A
Grg4
Lef1
Pax3
Dct Locus
Sox10
Pax3
Lef1
Mitf
Mitf Locus
B
Wnts
βCat
Pax3
βCat
Lef1
Mitf
Sox10
Dct Locus
βCat
Sox10
Pax3
Lef1
Mitf
Mitf Locus
βCat
Lef1
Mitf
A
βCat
Mitf
B
Other Loci


Migration and differentiation of cranial neural crest cells
(A)
(B)
(C)
migrating ncc
neuronal differentiation of ncc
(D)
(E)
skeletal differentiation of ncc
neurocranium


Bird
Embryo
Human
Mouse
Diencephalic + anterior mesencephalic NC
Posterior mesencephalic NC
R1 + R2 + R3 NC
R4 + R3 + R5 NC
R6 + R5 NC
Nature Reviews | Neuroscience


Prepatterning
a
Quail
Duck
Duck
Quail
Plasticity
b
Chick
FE
LB+