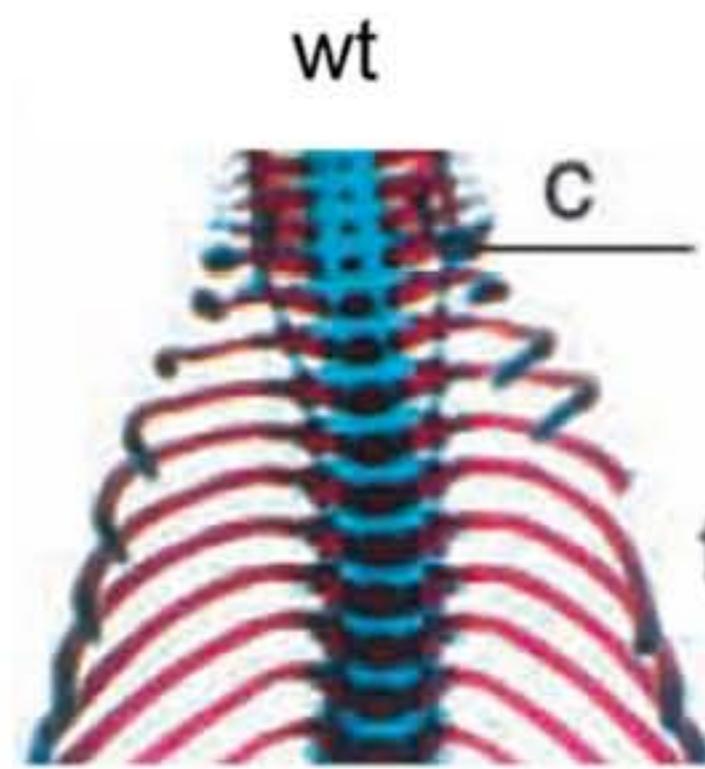
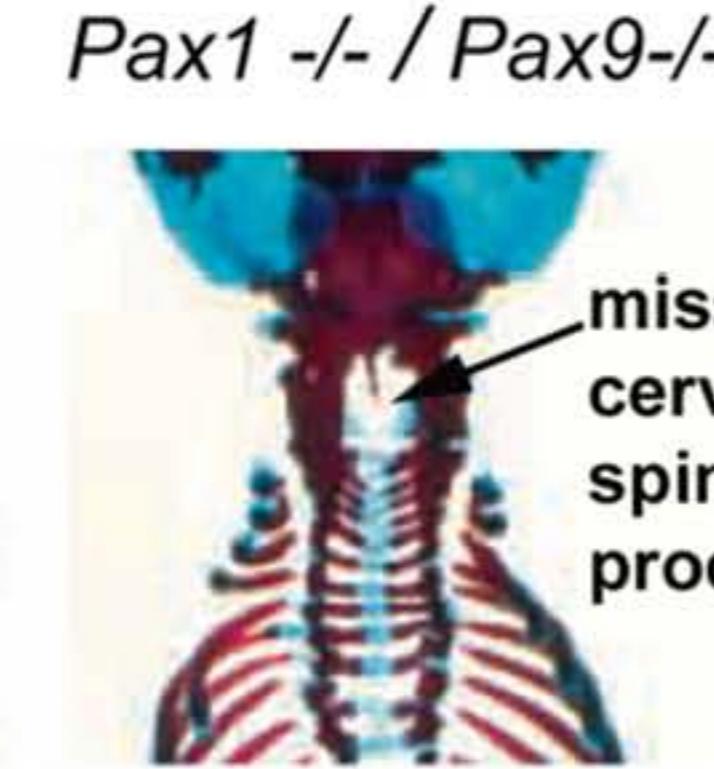


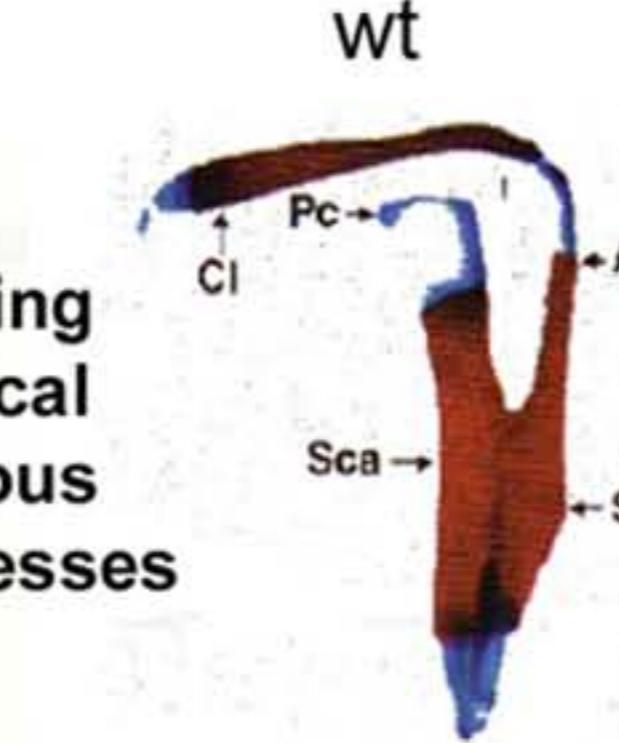
Appendix 2: specific post-otic neural crest (PONC) deficiencies in mouse mutants of :



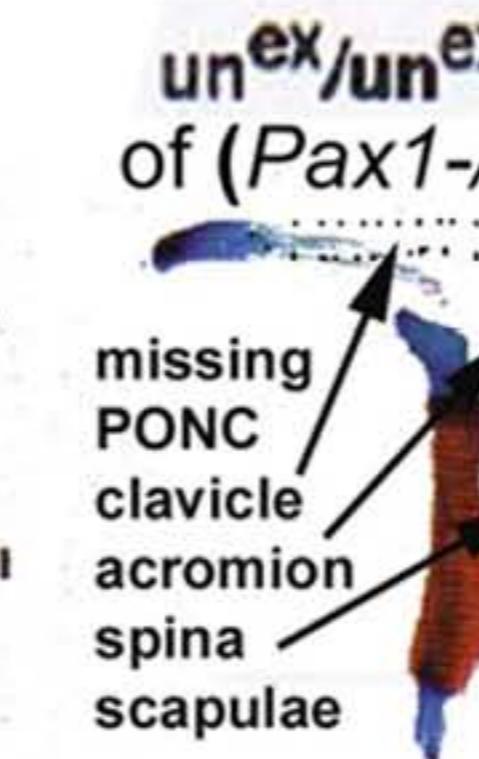
(modified from Peters et al. 1999)



missing cervical spinous processes

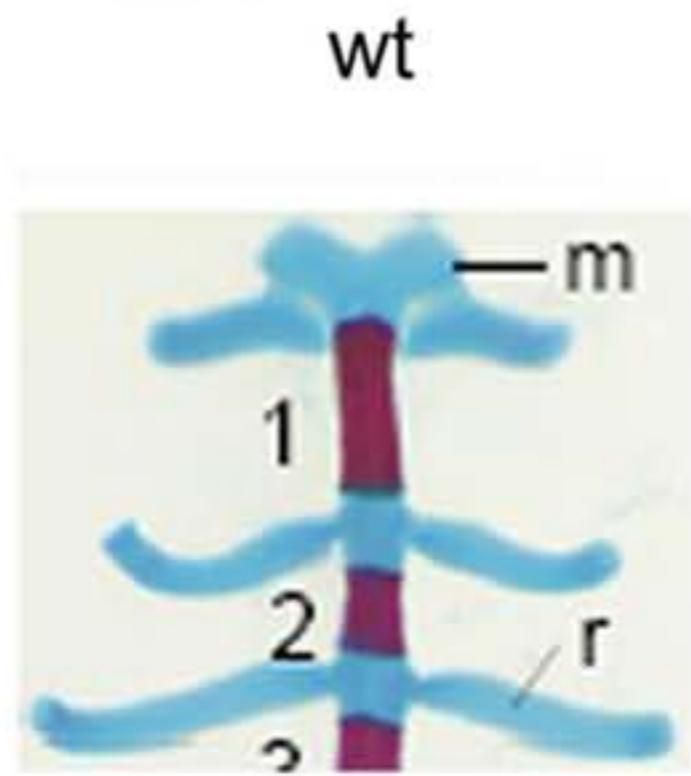


(modified from Dietrich & Gruss, 1995)

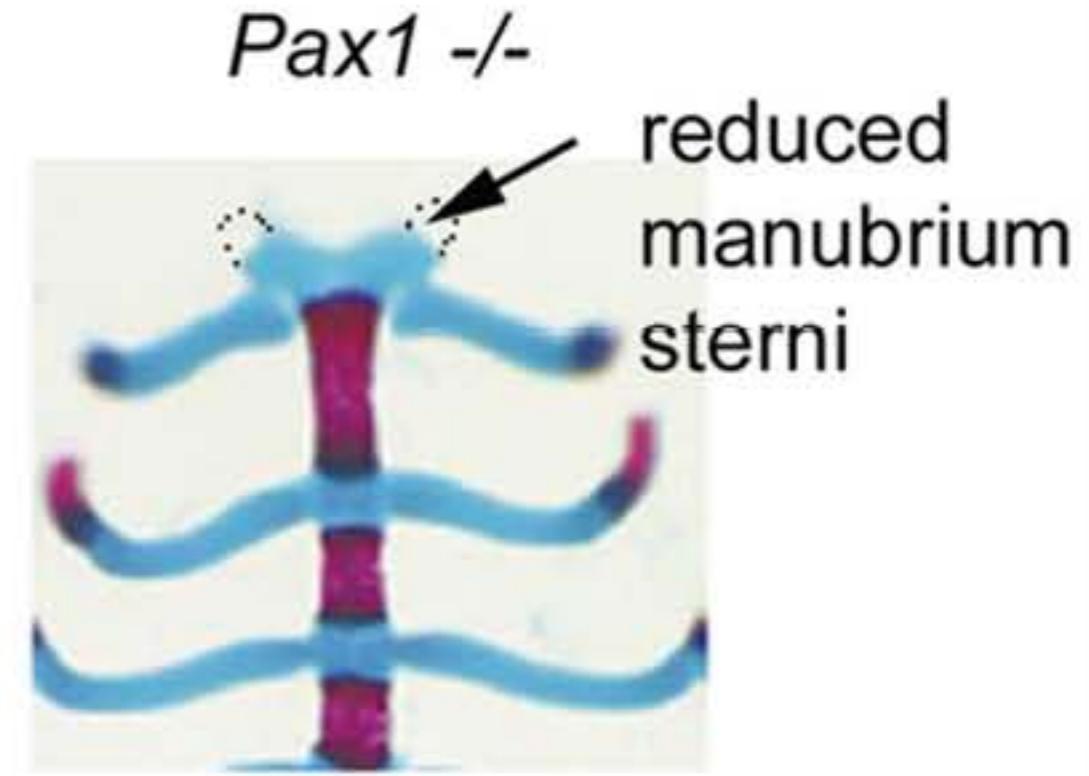


$\text{un}^{\text{ex}}/\text{un}^{\text{ex}}$
of (*Pax1* -/-)

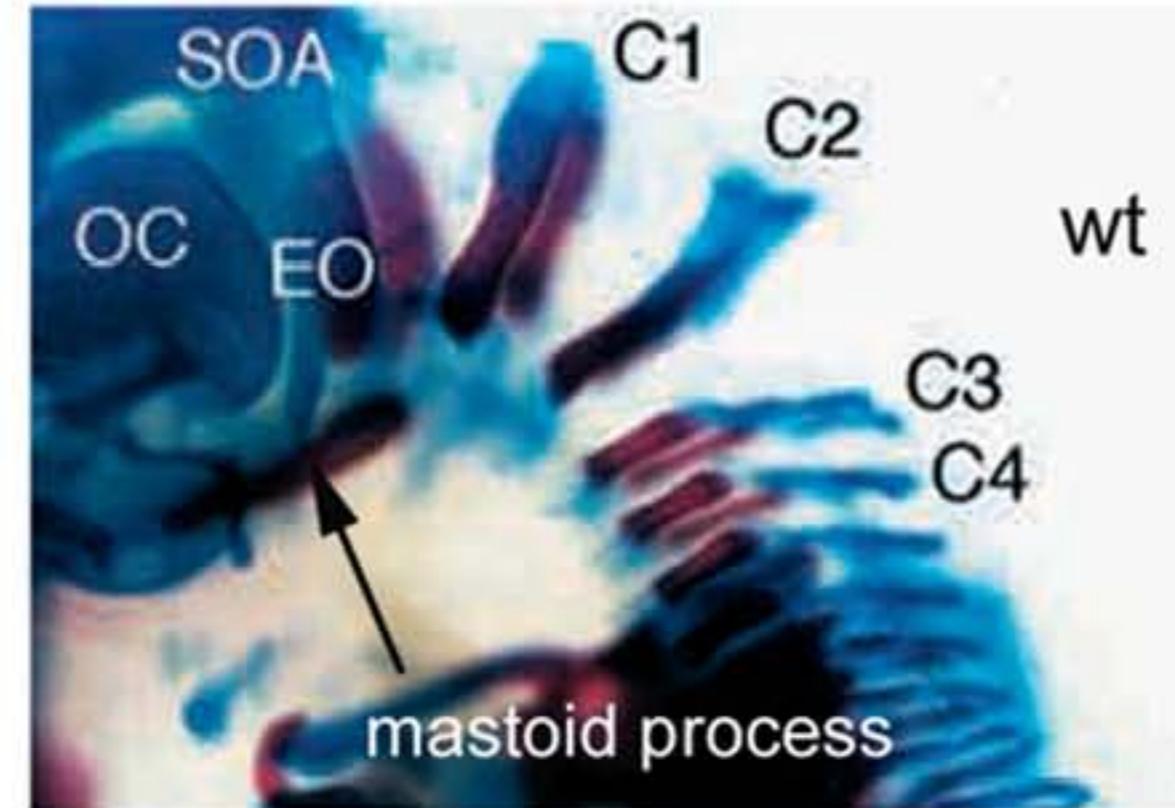
missing
PONC
clavicle
acromion
spina
scapulae



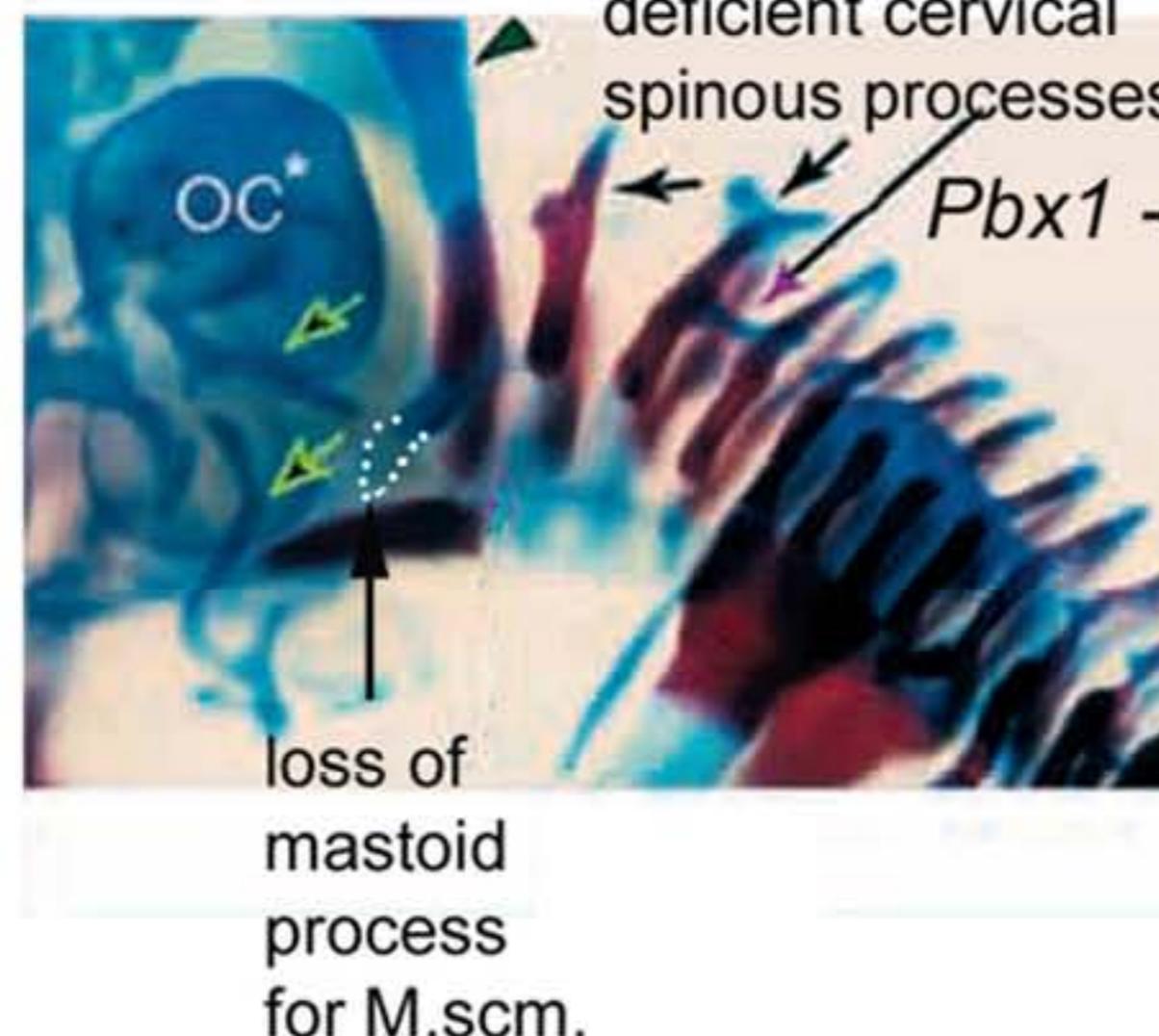
(modified from Peters et al. 1999)



Pax1 -/-
reduced
manubrium
sterni



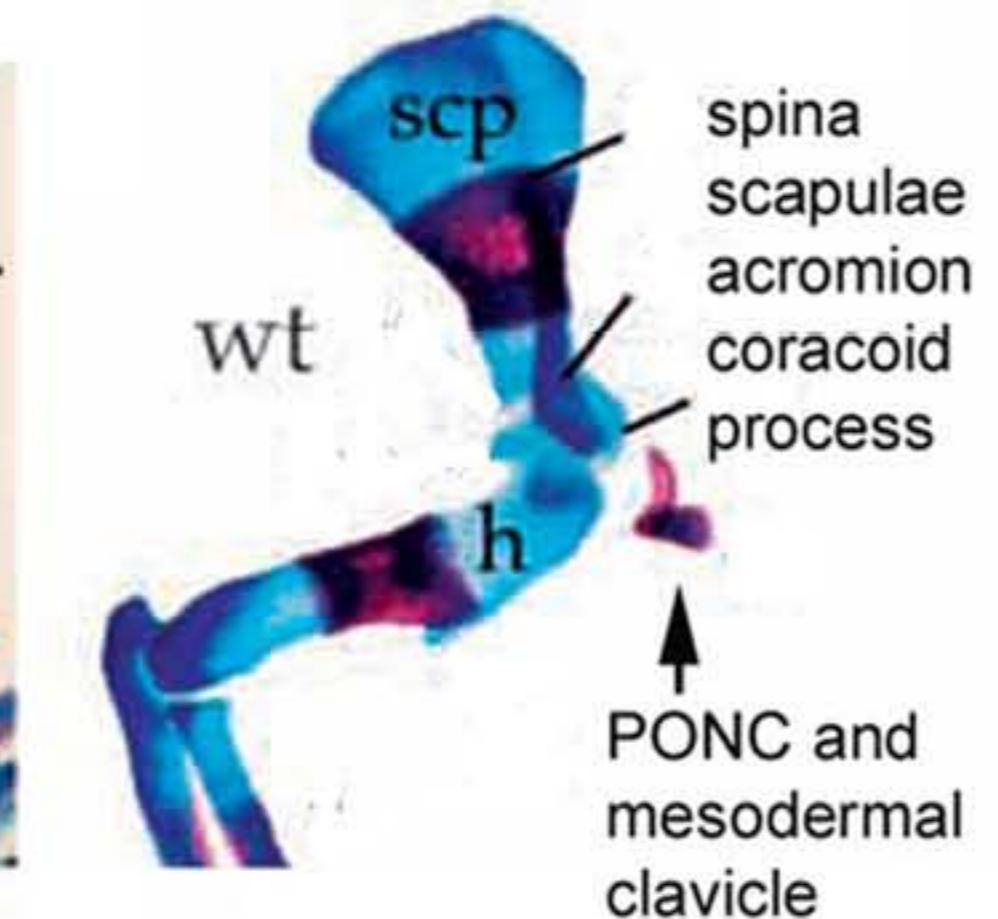
(modified from Selleri et al. 2001)



deficient cervical
spinous processes

Pbx1 -/-

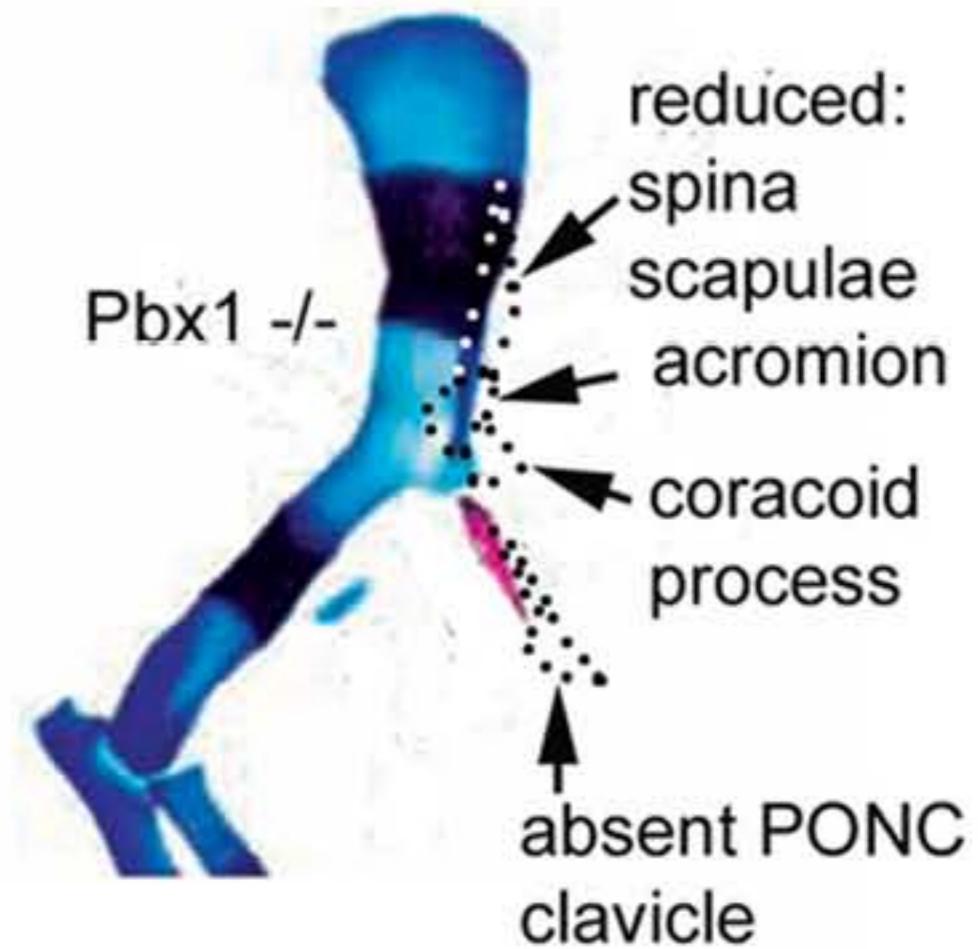
loss of
mastoid
process
for M.scm.



wt

scp
spina
scapulae
acromion
coracoid
process

PONC and
mesodermal
clavicle



Pbx1 -/-

reduced:
spina
scapulae
acromion
coracoid
process

absent PONC
clavicle

(modified from Selleri et al. 2001)