

Chapter 25

Evolutionary Aside 25.1--From Notochords to Puppy Dog Tails

The *Brachyury* gene was co-opted for notochord development in basal chordates that lack vertebrae. As vertebrates evolved, it appears to have gained at least one additional function. In mice and dogs, a mutation in *Brachyury* that prevents the encoded protein from binding to DNA causes a short tail to develop. In some dog breeds it is customary to “bob” (surgically shorten) a puppy’s tail. Nonlethal, short-tail mutations are being used to breed dogs like Welsh corgis to avoid bobbing. *Brachyury alone is not sufficient* to make a tail. Humans have wild-type copies of *Brachyury*, but lack tails.