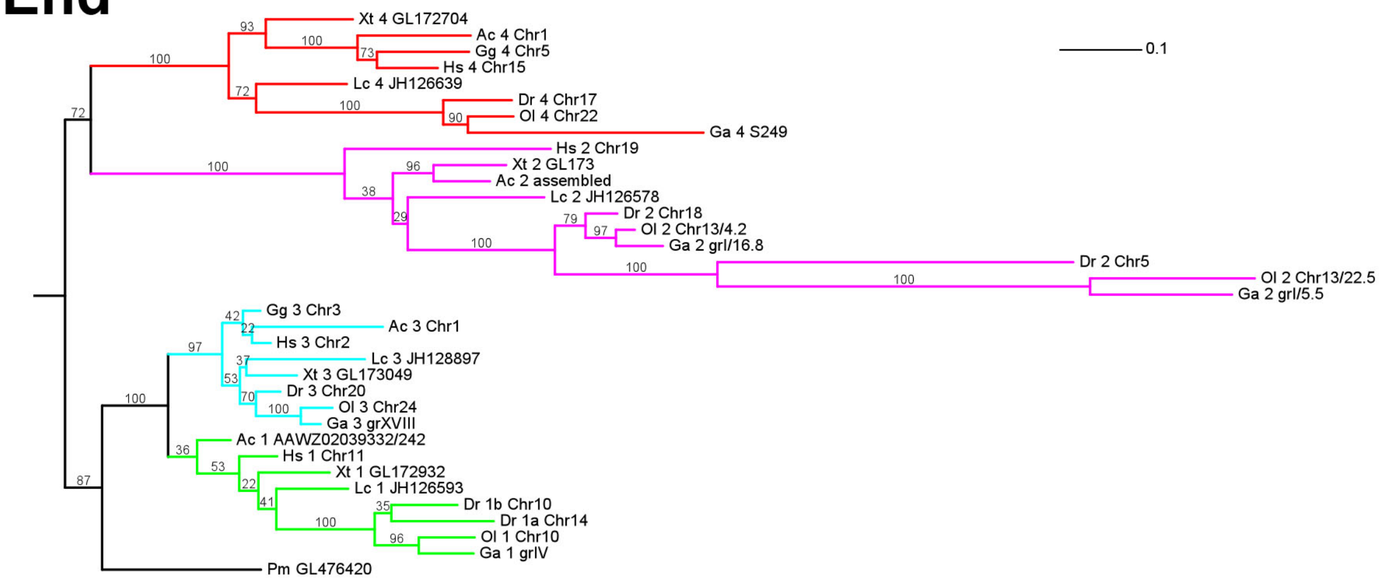
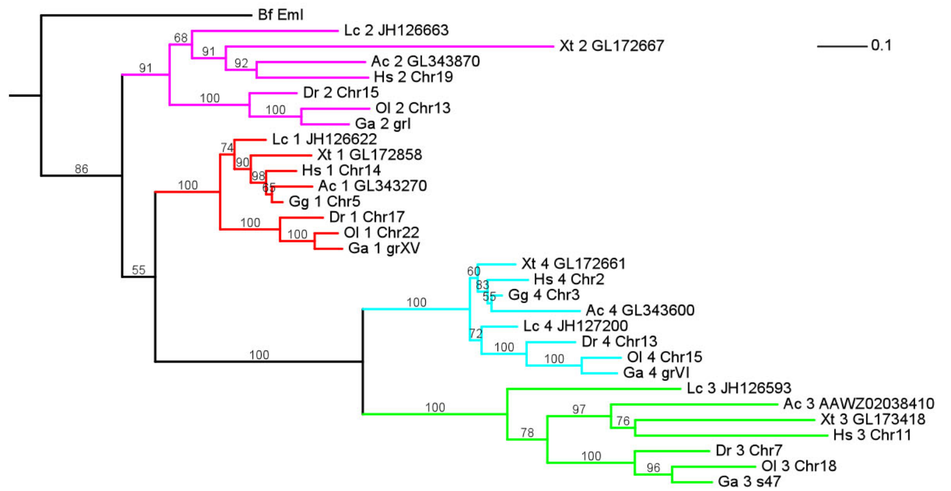
Additional File 7. Phylogenetic protein trees for genes associated with all four *Dact* loci.

The color code used in the trees and abbreviations are as in Figure 2. Note that wherever statistically well supported metagroups appeared in these trees, they encompassed *Dact1,3* and/or *Dact2,4* associated genes; all other permutations (linking *Dact1,2*; *Dact1,4*; *Dact3,2* or *Dact3,4* associated genes) did not occur. This supports the idea that *Dact1* and *Dact3* loci arose from one, *Dact2* and *Dact4* loci from the second locus generated during the 1st round of vertebrate genome duplication.

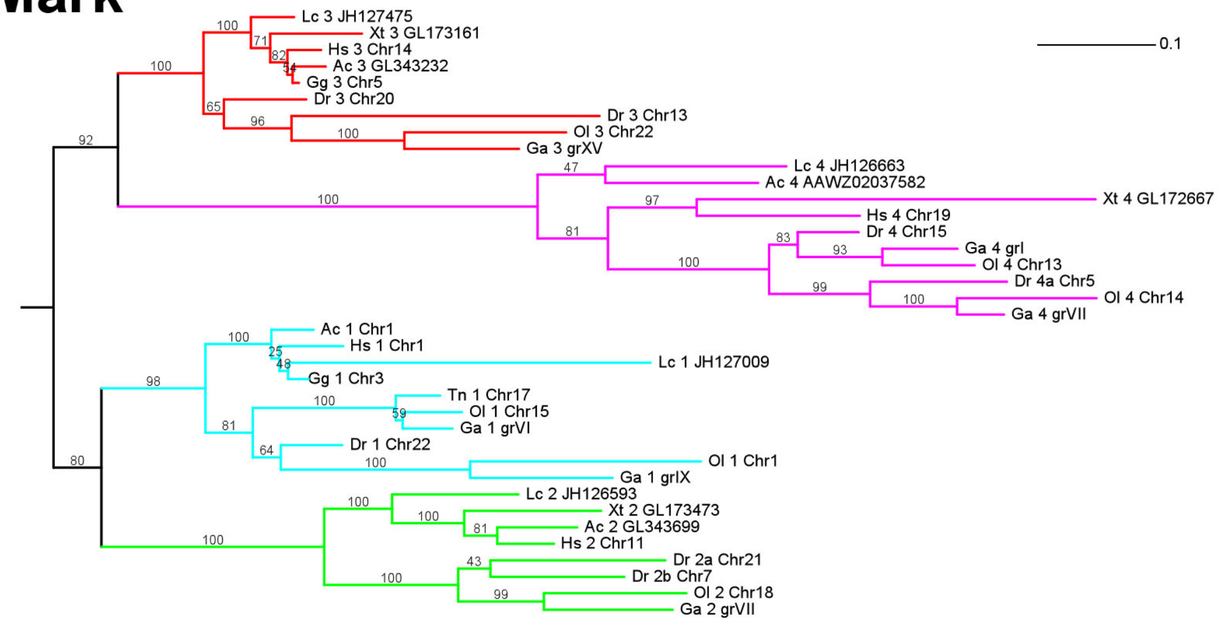
A. Ehd



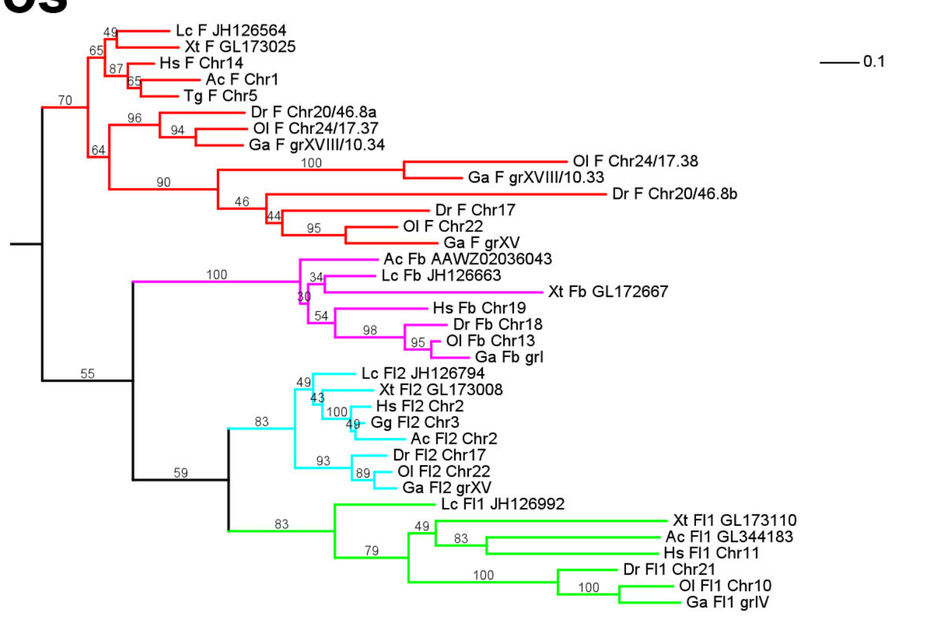
B. Eml



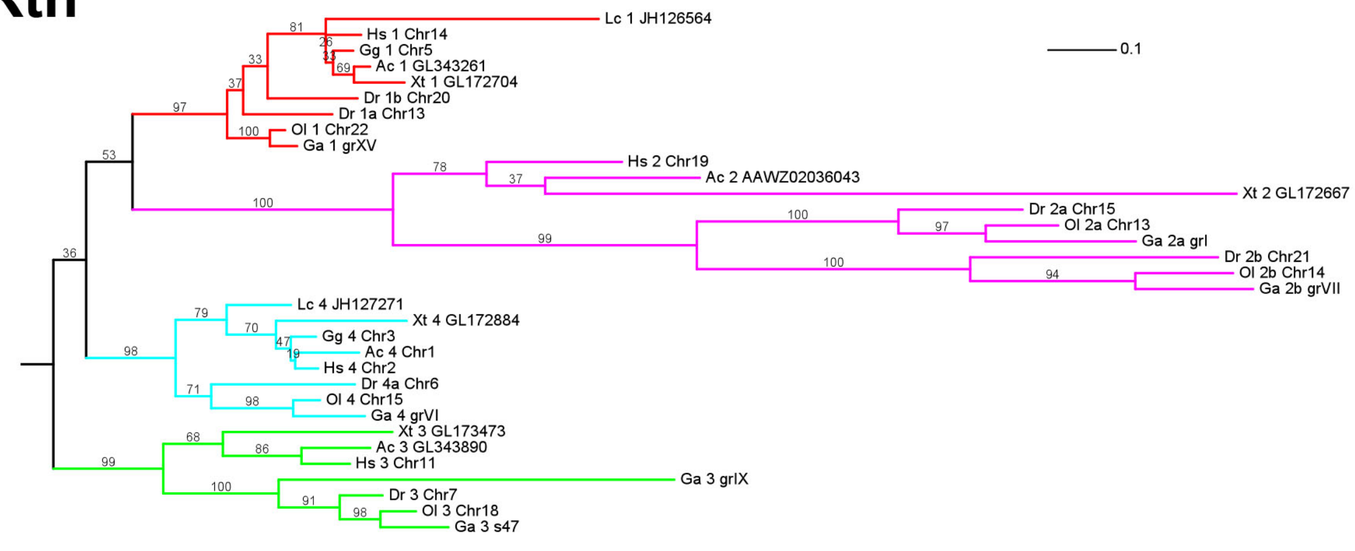
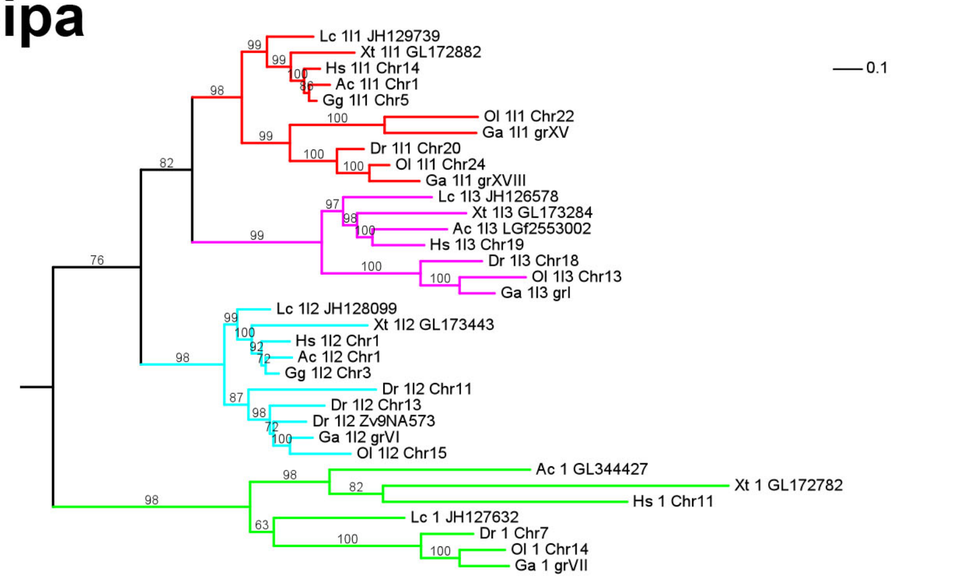
C. Mark



D. Fos



E. Rtn



F. Sipa