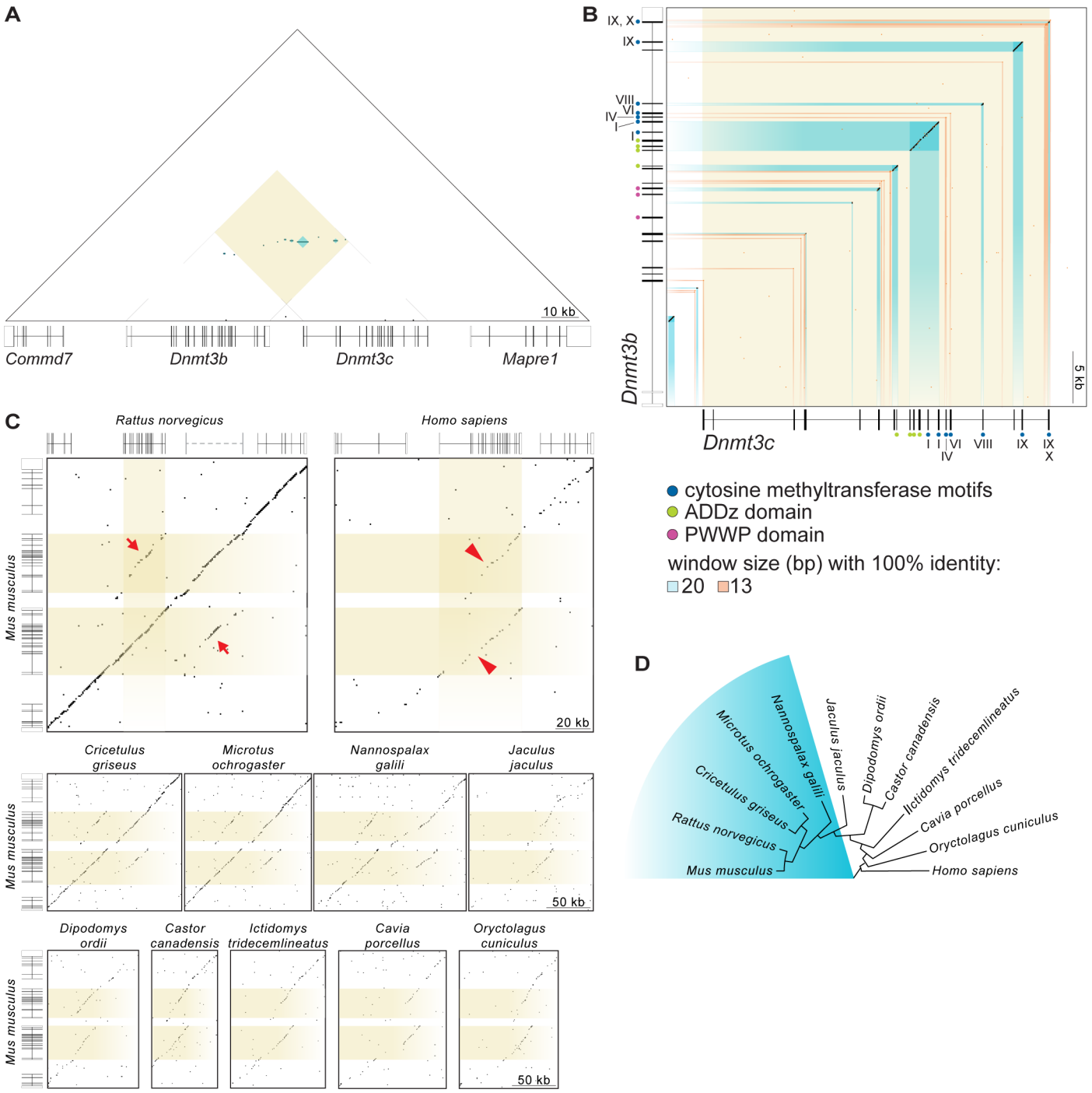

Fig 8. *Dnmt3c* arose by tandem duplication of *Dnmt3b* in rodents. (A) Triangular dot plot of DNA sequence identities within a 156,377-bp region encompassing *Dnmt3b*, *Dnmt3c*, and flanking genes in *Mus musculus*. Each dot on the plot represents 100% identity within a 20-bp window. Direct repeats appear as horizontal lines. The yellow-tinted square shows the region within the plot that compares *Dnmt3b* to *Dnmt3c*, and the blue-tinted squares within it reflect regions with identical sequences within 20-bp windows. Immediately below the plot are gene models with shaded boxes representing coding sequences. **(B)** Dot-plot comparison of *M. musculus Dnmt3c* (including 3,500 bp of flanking sequence on each side) and *Dnmt3b*. Each black dot on the plot represents 100% identity within a 20-bp window, and blue-tinted rectangles highlight these regions. Each orange dot represents 100% identity within a 13-bp window, and orange-tinted rectangles highlight such regions when they are exonic or lie along the diagonal axis. Gene models annotated with exons encoding conserved domains are shown schematically along the axes. **(C)** Dot-plot comparisons of the *M. musculus* 156,377-bp region shown in (A) with its homologous region in other rodents (*Rattus norvegicus*, Norway rat; *Cricetulus griseus*, Chinese hamster; *Microtus ochrogaster*, prairie vole; *Nannospalax galili*, Upper Galilee Mountains blind mole rat; *Jaculus jaculus*, lesser Egyptian jerboa; *Dipodomys ordii*, Ord's kangaroo rat; *Castor canadensis*, American beaver; *Ictidomys tridecemlineatus*, thirteen-lined ground squirrel; *Cavia porcellus*, domestic guinea

pig), a lagomorph (*Oryctolagus cuniculus*, rabbit), and human (*Homo sapiens*). Each dot on the plot represents 100% identity within a 15-bp window. Yellow-tinted rectangles highlight *M. musculus Dnmt3b* and *Dnmt3c*, as well as *Dnmt3b* in rat and human. Gene models are shown for *M. musculus*, *R. norvegicus*, and *H. sapiens*. The putative *Dnmt3c* gene location in *R. norvegicus* is depicted by the gray dashed line above the dot plot. Segments of contiguous inter-species sequence identity between *Dnmt3b* and *Dnmt3c* appear as off-center partial diagonals (arrows) for those species that harbor the *Dnmt3b* and *Dnmt3c* pair, or as two offset diagonals (arrowheads) for species that lack the duplication. **(D)** Cladogram showing the evolutionary relationship of species analyzed (UCSC Genome Browser; [60]). Species that showed evidence of harboring *Dnmt3c* are highlighted in blue.

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