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**Cover picture:** Localization of mitochondrial DNA (mtDNA) in the monkey cerebellum by *in situ* hybridization using <sup>35</sup>S-labeled riboprobes. The 17-kilobase, closed circular mtDNA genome encodes 13 polypeptides, all of which are subunits of mitochondrial respiratory chain enzymes, such as cytochrome oxidase. Each mitochondrion in the tissue contains one to several copies of the mtDNA. The amount of mtDNA in the tissue is regulated by neuronal functional activity. Thus, in neurons, the copy number of mitochondrial genes is regulated according to neuronal energy demands. See Hevner and Wong-Riley, pp. 1942–1958.

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