Parte II: Armazenamento e transmissão da informação

Retrotransposões e elementos genéticos móveis

Genoma humano

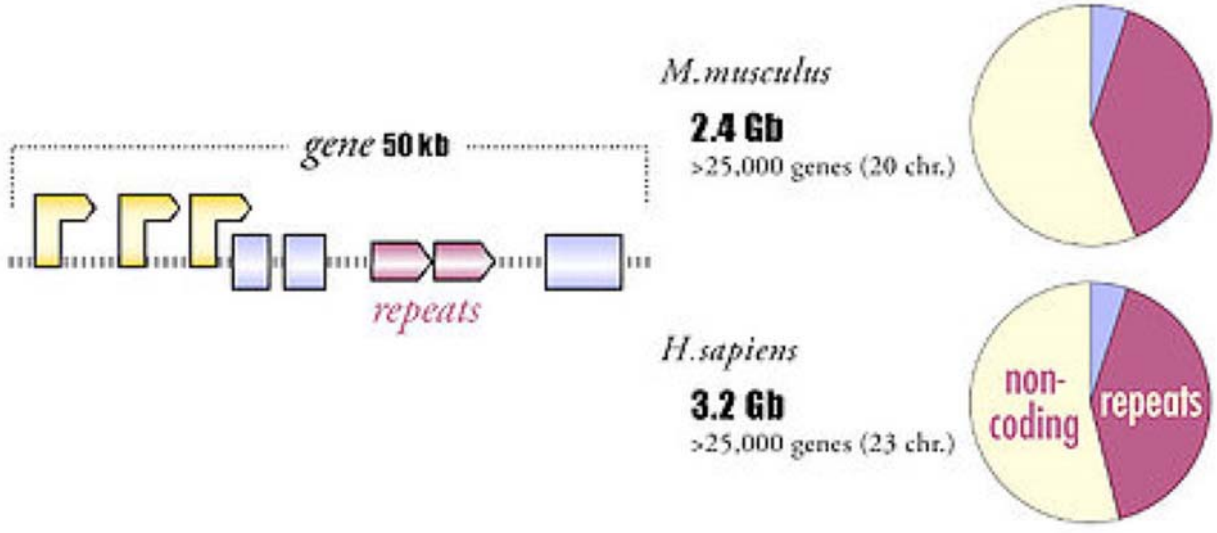


Table 4.1 Repetitive Sequences in the Human Genome

TABLE 4.1 Repetitive Sequences in the Human Genome

Type of sequence	Number of copies	Fraction of genome
Simple-sequence repeats[a]	>1,000,000	~10%
Retrotransposons		
LINEs	850,000	21%
SINEs	1,500,000	13%
Retrovirus-like elements	450,000	8%
DNA transposons	300,000	3%

[a] The content of simple-sequence repeats is estimated from the fraction of heterochromatin in the human genome.

Figure 4.6 Identification of Repetitive Sequences by DNA Reassociation

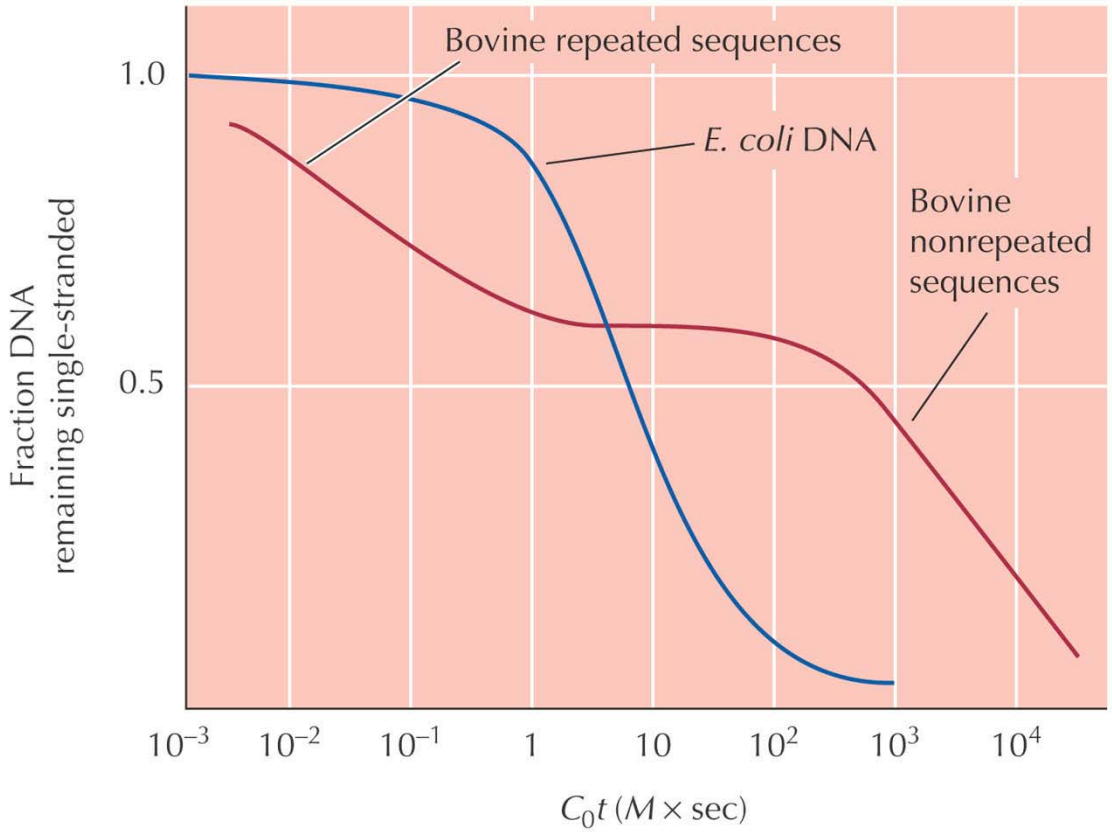


Figure 4.7 Satellite DNA

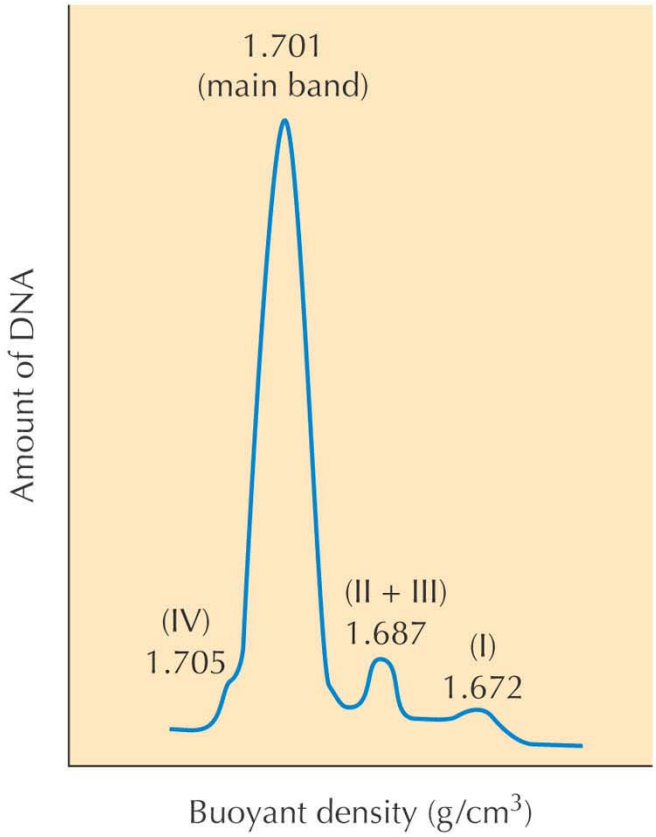


Figure 4.8 Movement of Retrotransposons

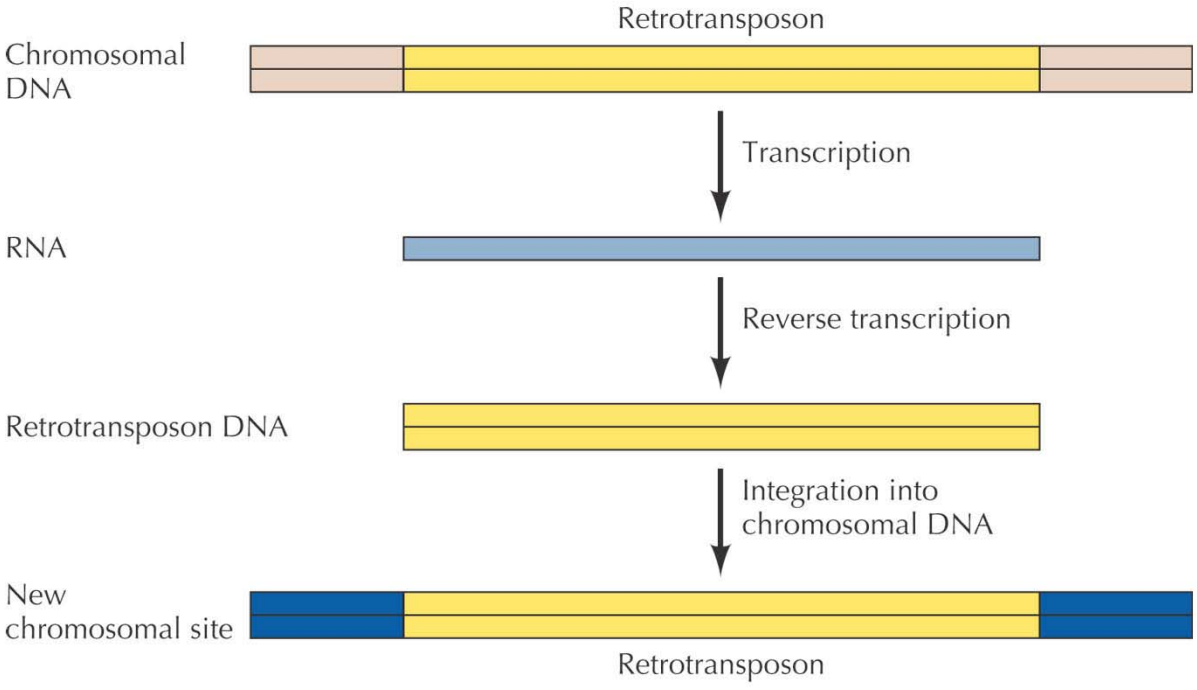


Figure 4.10 Formation of a Processed Pseudogene

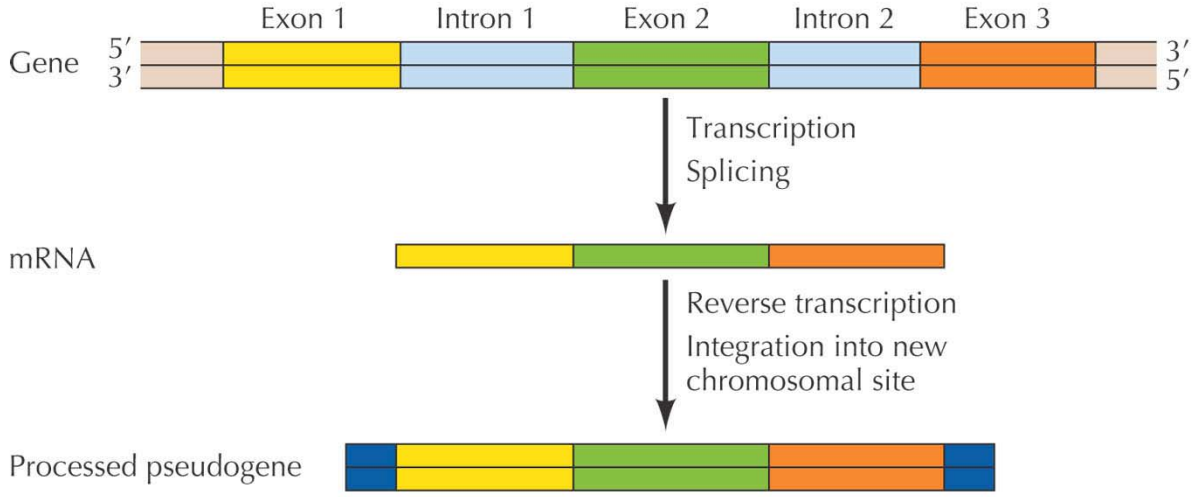


Figure 5.49 The Organization of Retroviral DNA

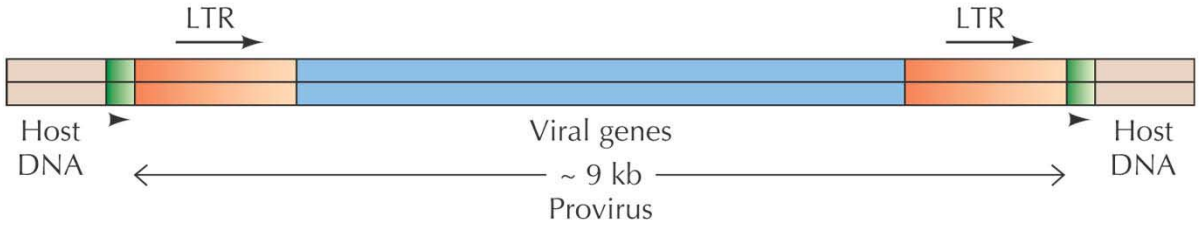


Figure 5.51 Structure of a LTR Retrotransposon

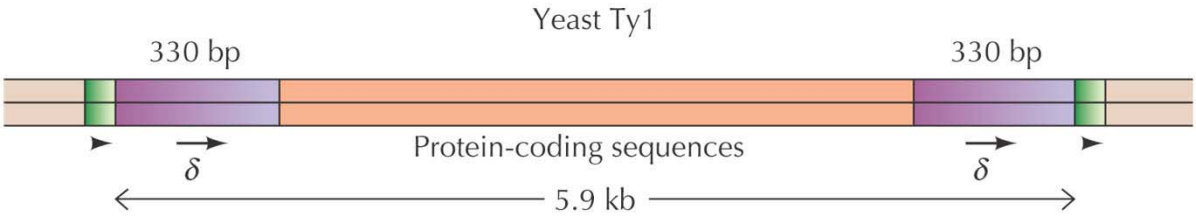


Figure 5.52 Structure of Human LINEs

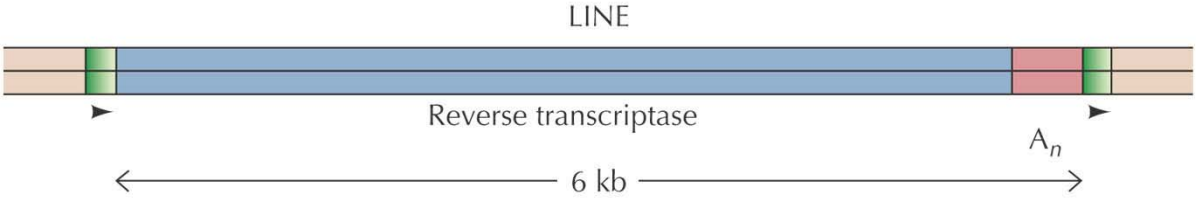


Figure 5.53 Model for Reverse Transcription and Integration of LINEs (Part 1)

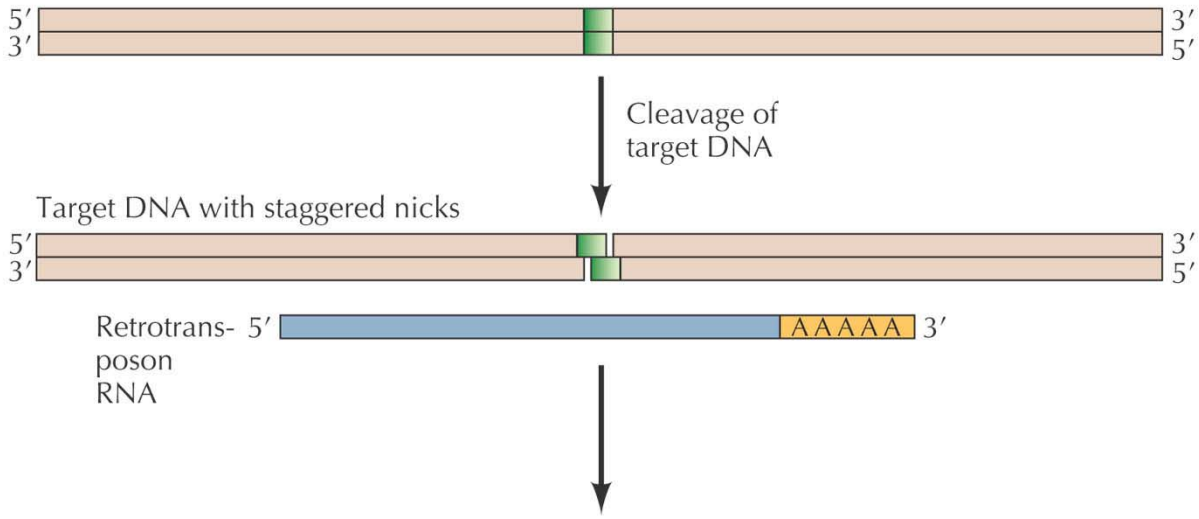


Figure 5.53 Model for Reverse Transcription and Integration of LINEs (Part 2)

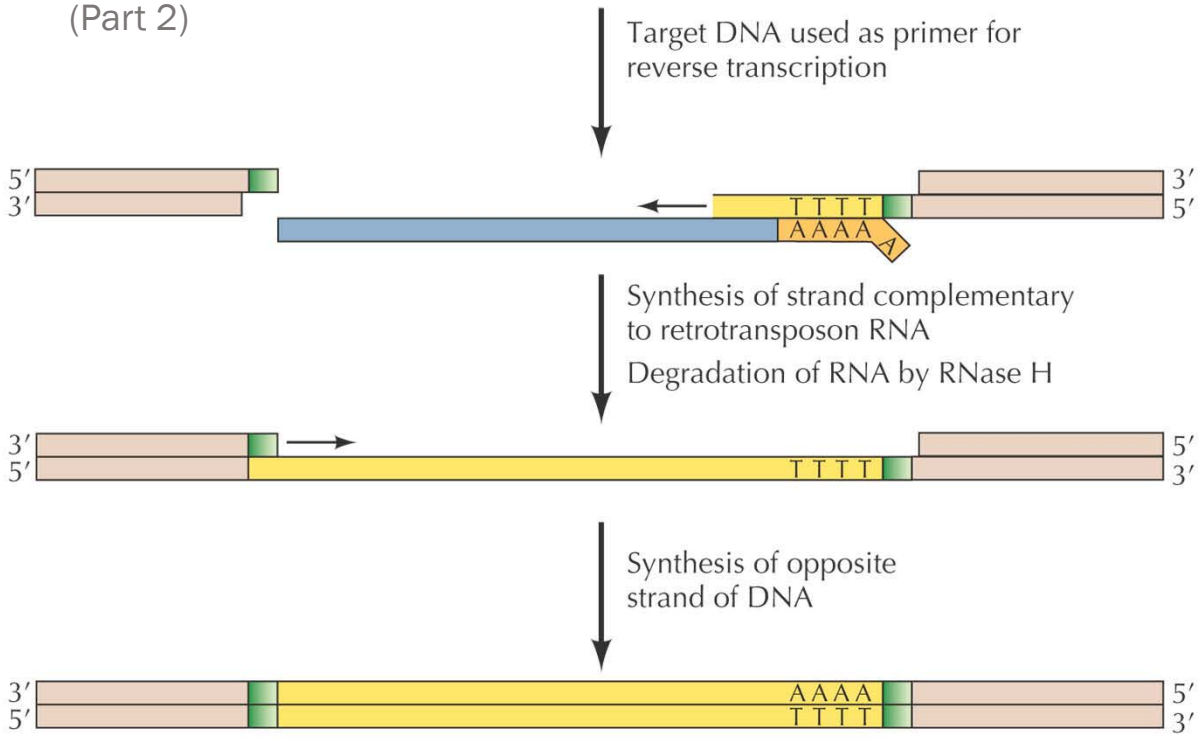
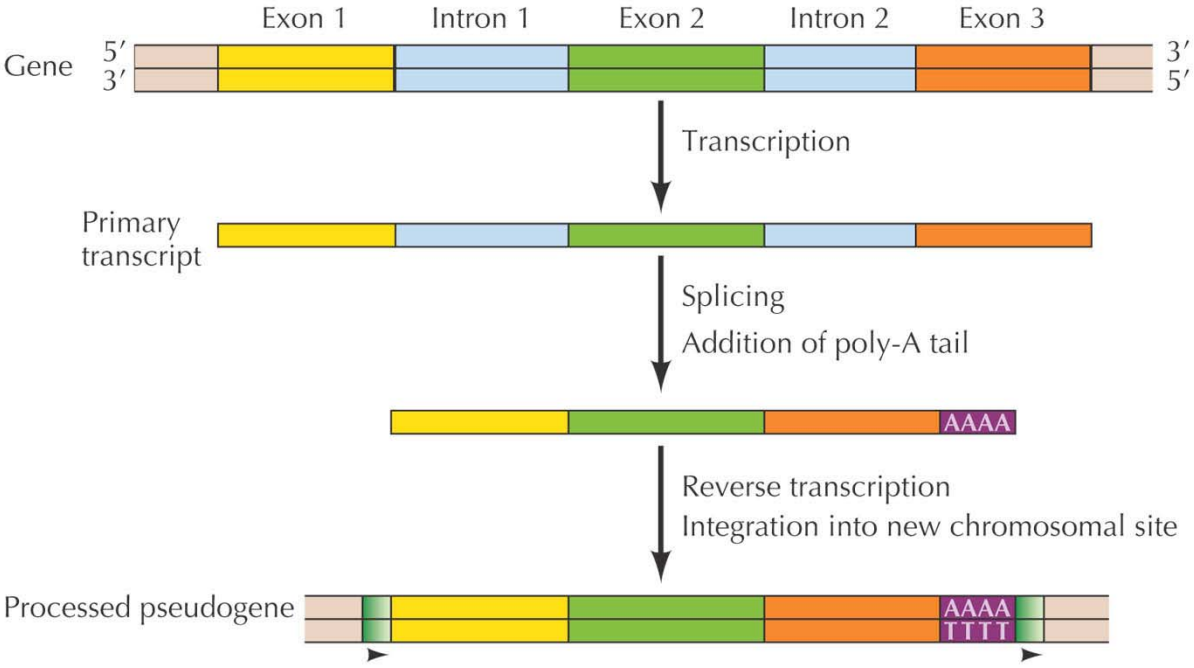


Figure 5.54 Formation of a Processed Pseudogene



Contextos celulares normais em que o rearranjo de segmentos de DNA semelhante à transposição é importante:

- Geração de diversidade genética no sistema imunitário

Os eventos de transposição/retrotransposição parecem ainda ter constituído uma força positiva na evolução dos genomas pela criação de variabilidade genética e aparecimento de novos genes!