



**Dra. Kasia Oktaba**

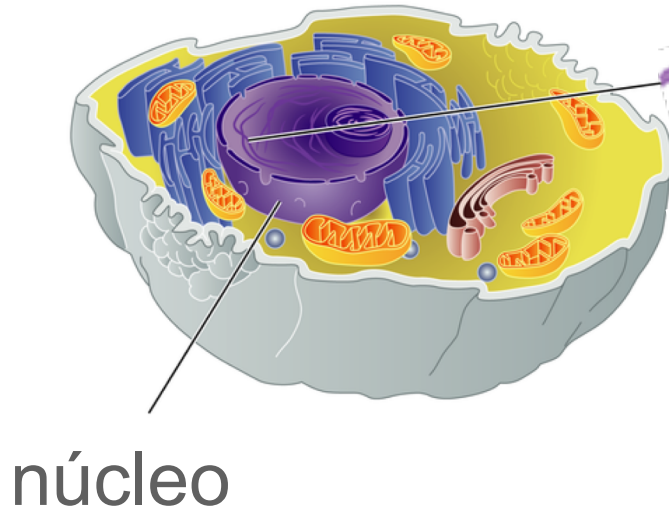
## Laboratorio de Regulación y Topología del Genoma

Departamento de Ingeniería Genética  
Cinvestav-Unidad Irapuato  
Edificio E3 Laboratorio 3  
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# Regulación y topología del genoma

## Parte II: Topología

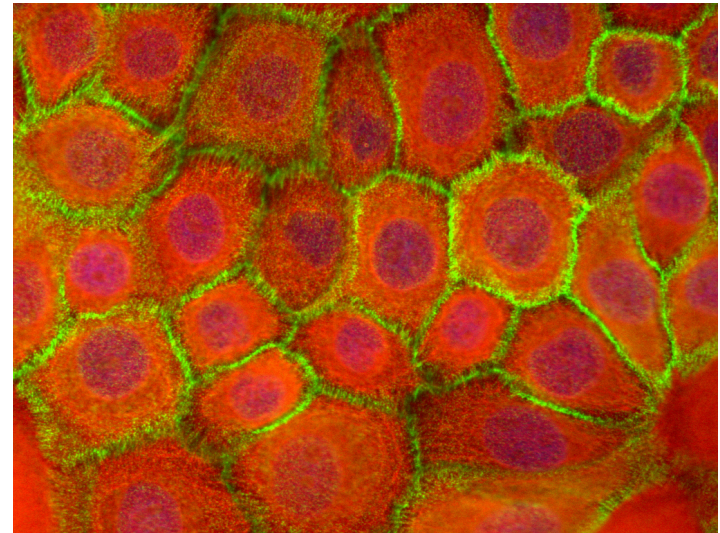
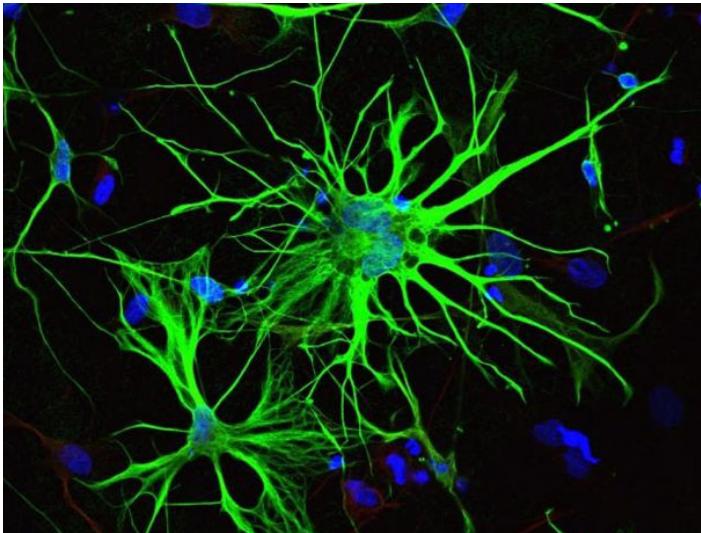
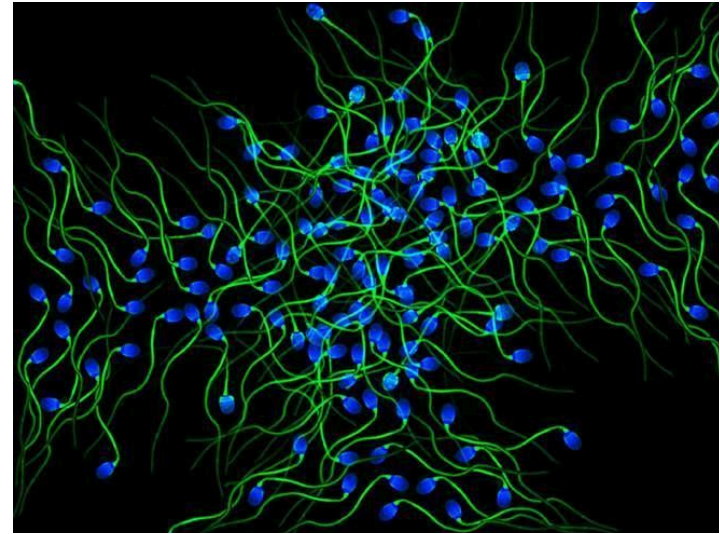
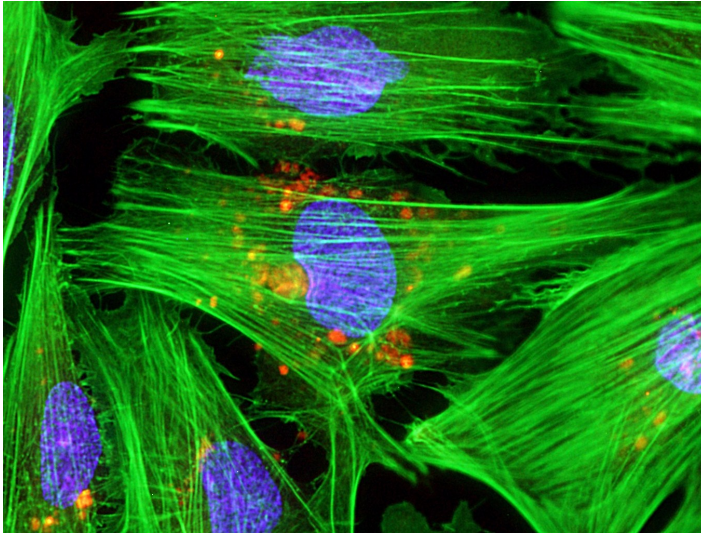


## Parte I: Regulación

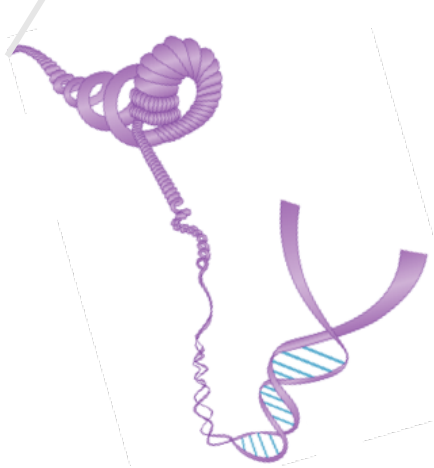
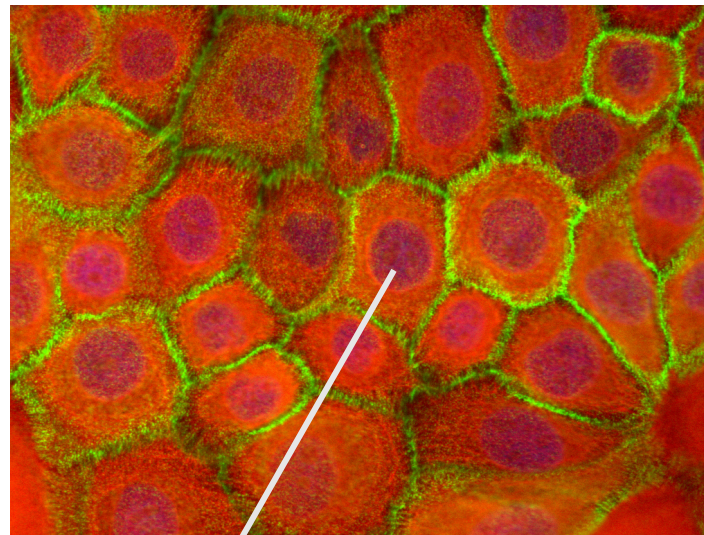
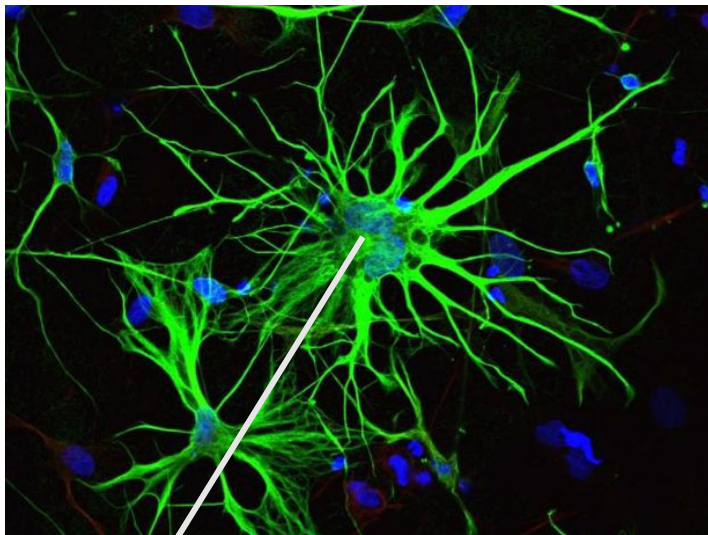
DNA



# Regulación del genoma



# Regulación del genoma

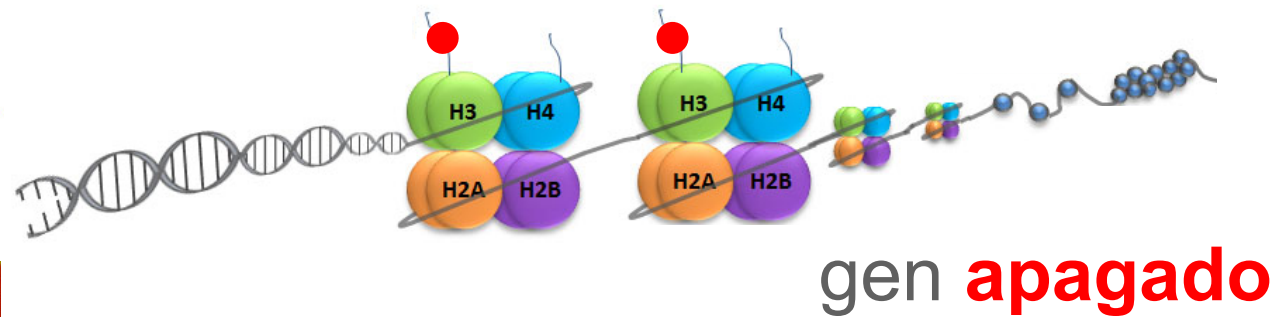
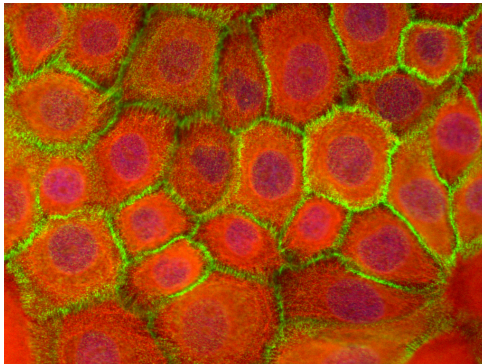
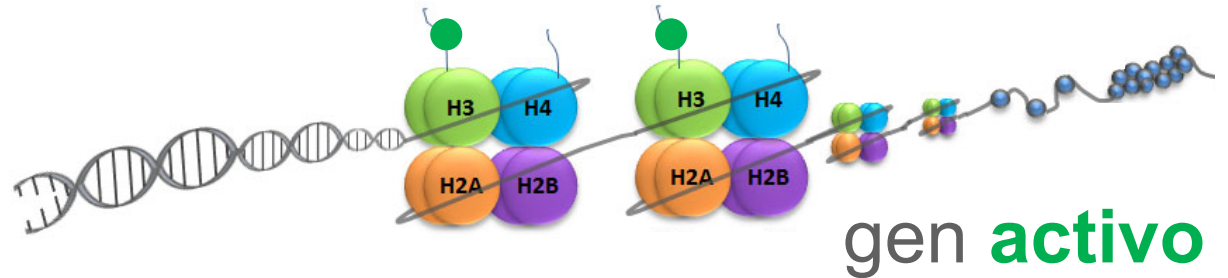
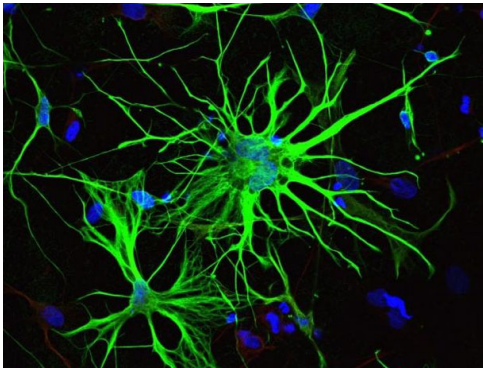


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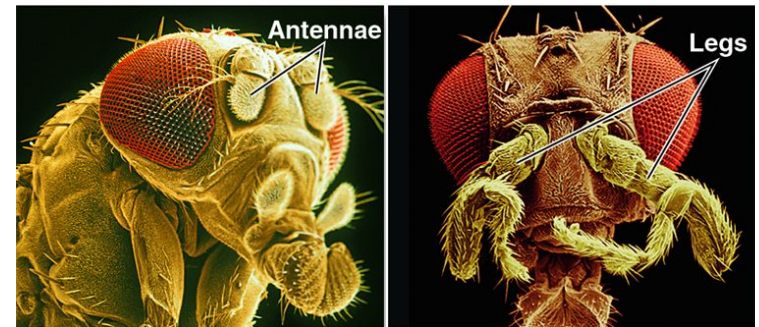
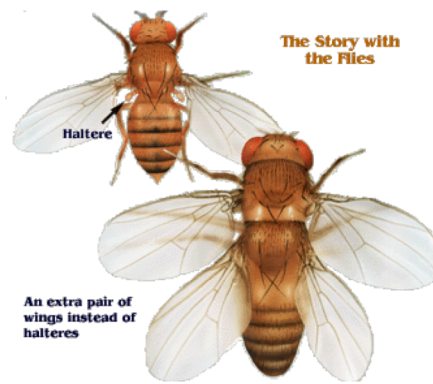
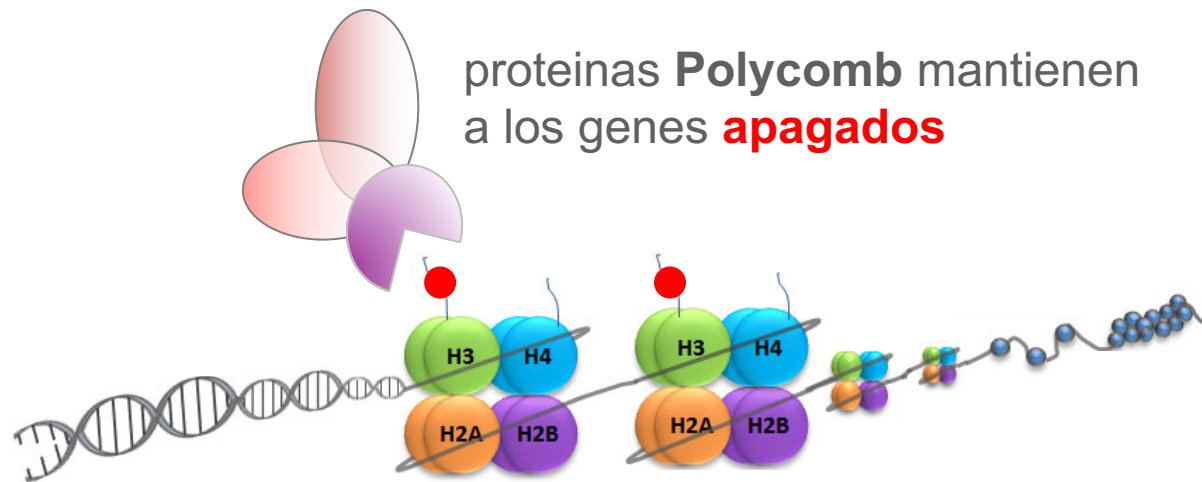


# Regulación del genoma: epigenética

marcas epigenéticas en colas de histonas: código



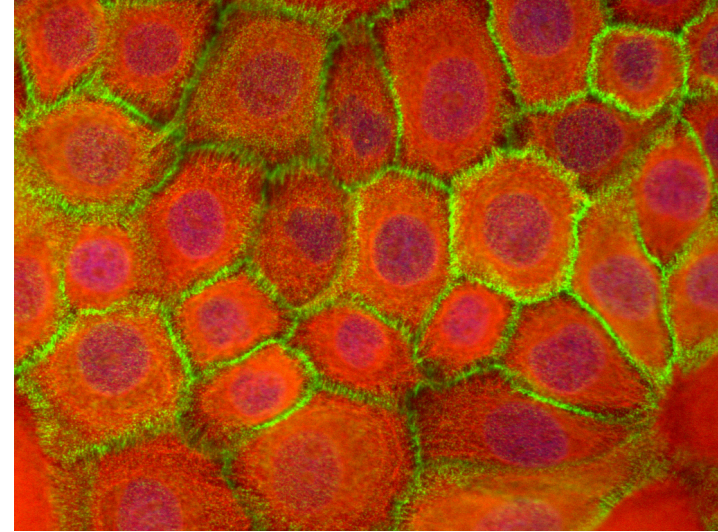
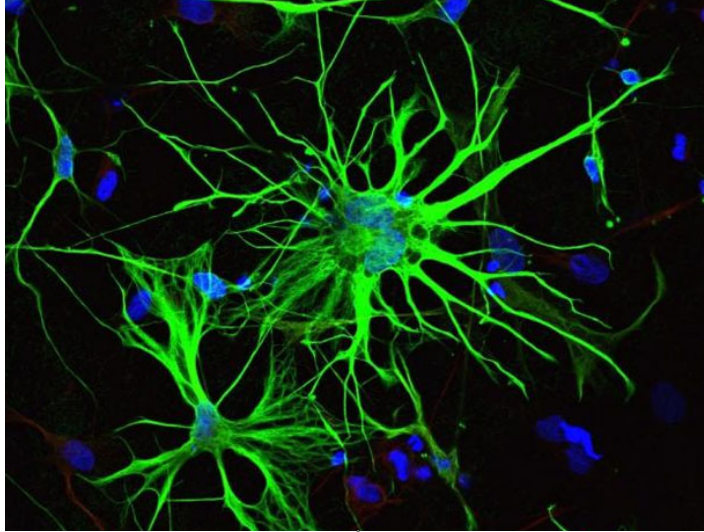
# Regulación del genoma: en *Drosophila*



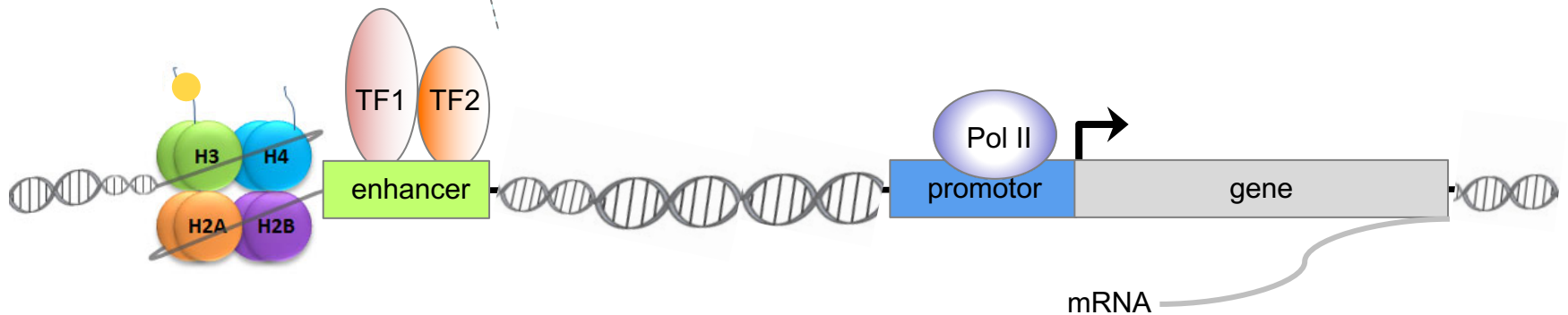
(a) Normal fly

(b) Mutant fly

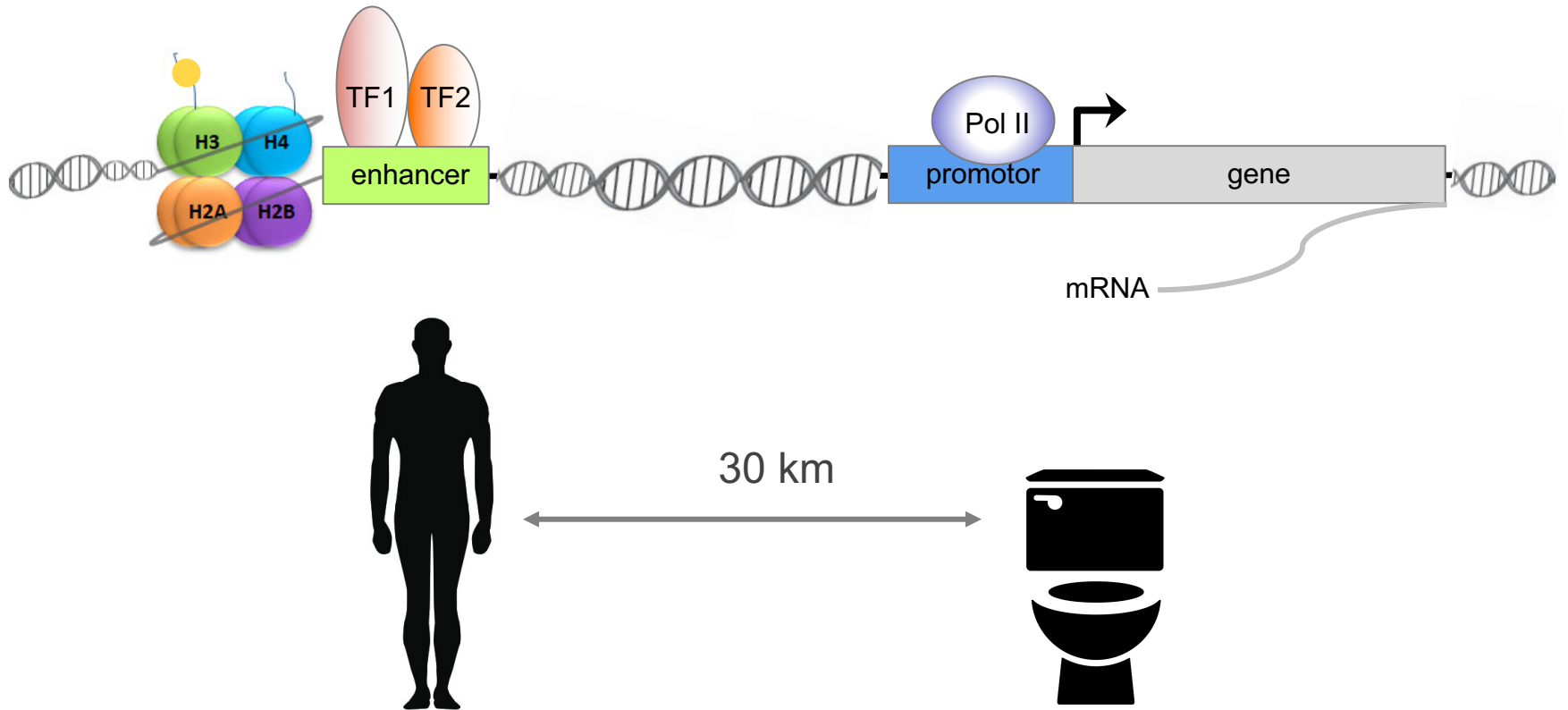
# Regulación del genoma: 'enhancers'



factores de transcripción  
**activan** o **apagan** genes

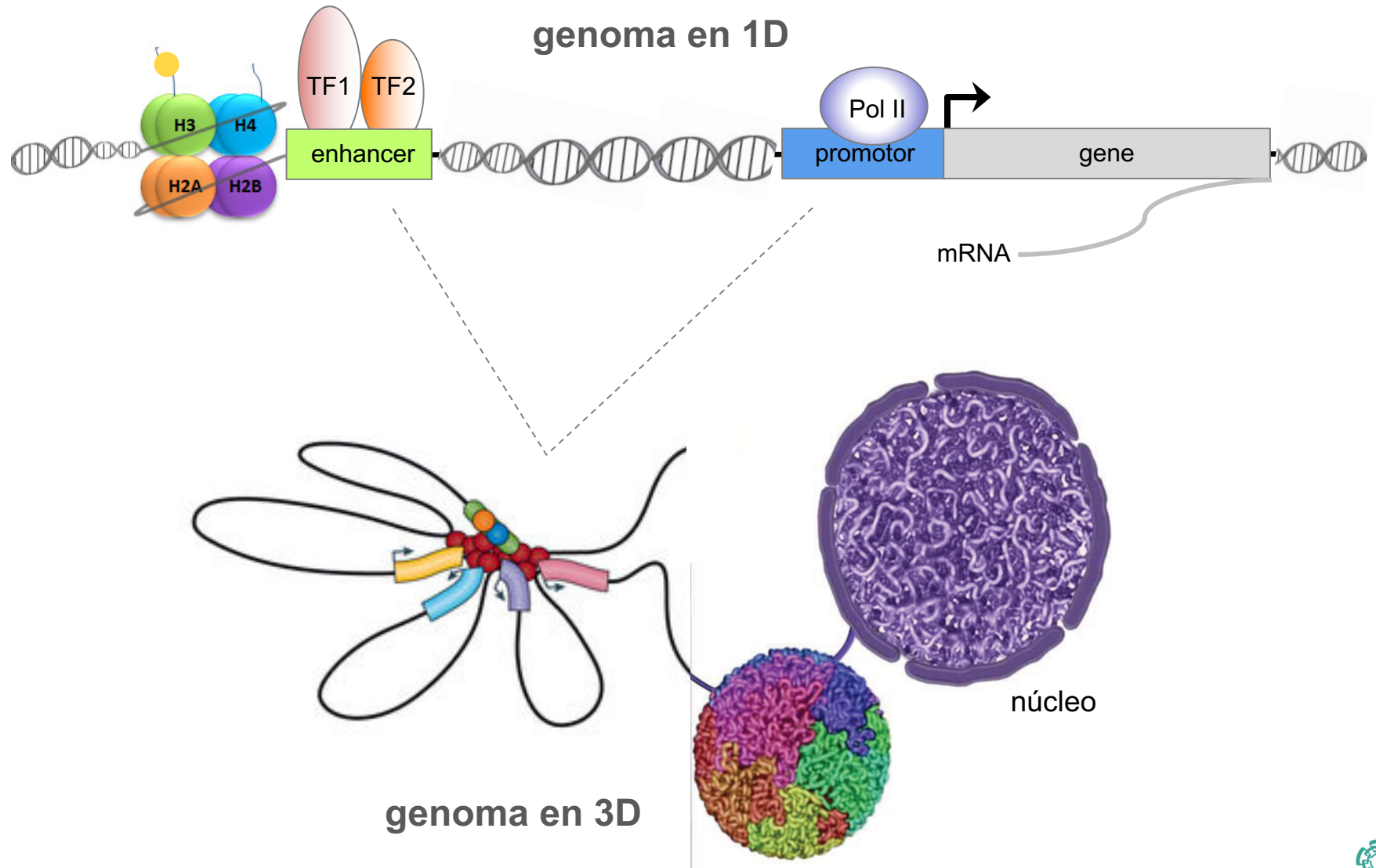


# Problema

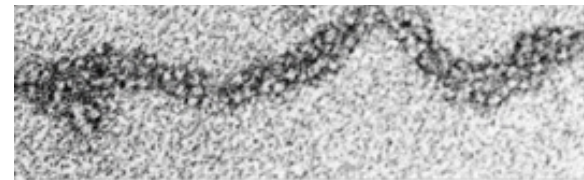
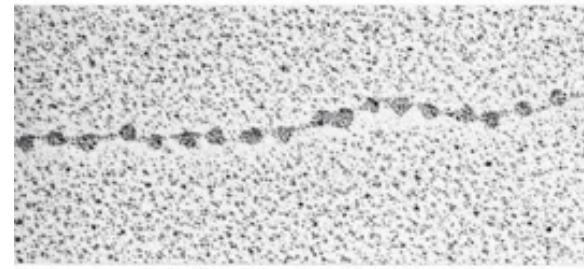
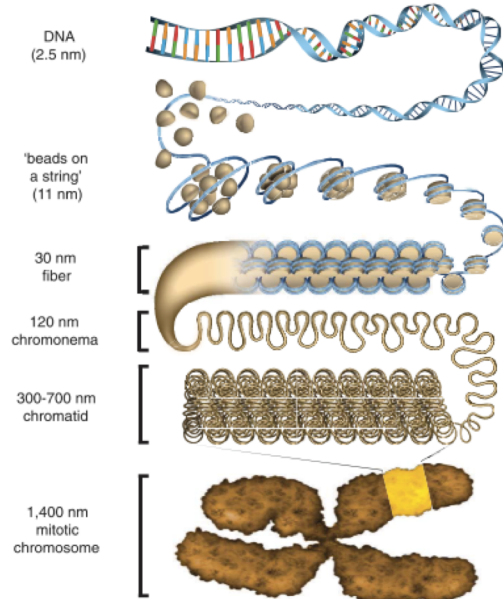




# Topología del genoma



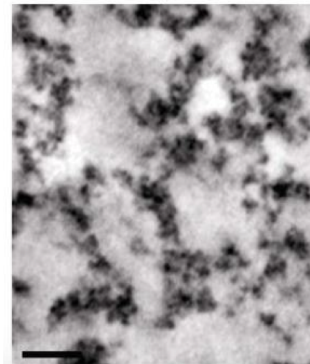
# Topología del genoma



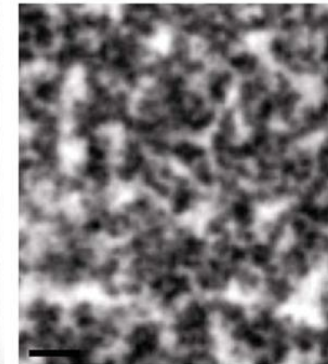
## disordered 5-24 nm diameter chain



interphase



mitotic

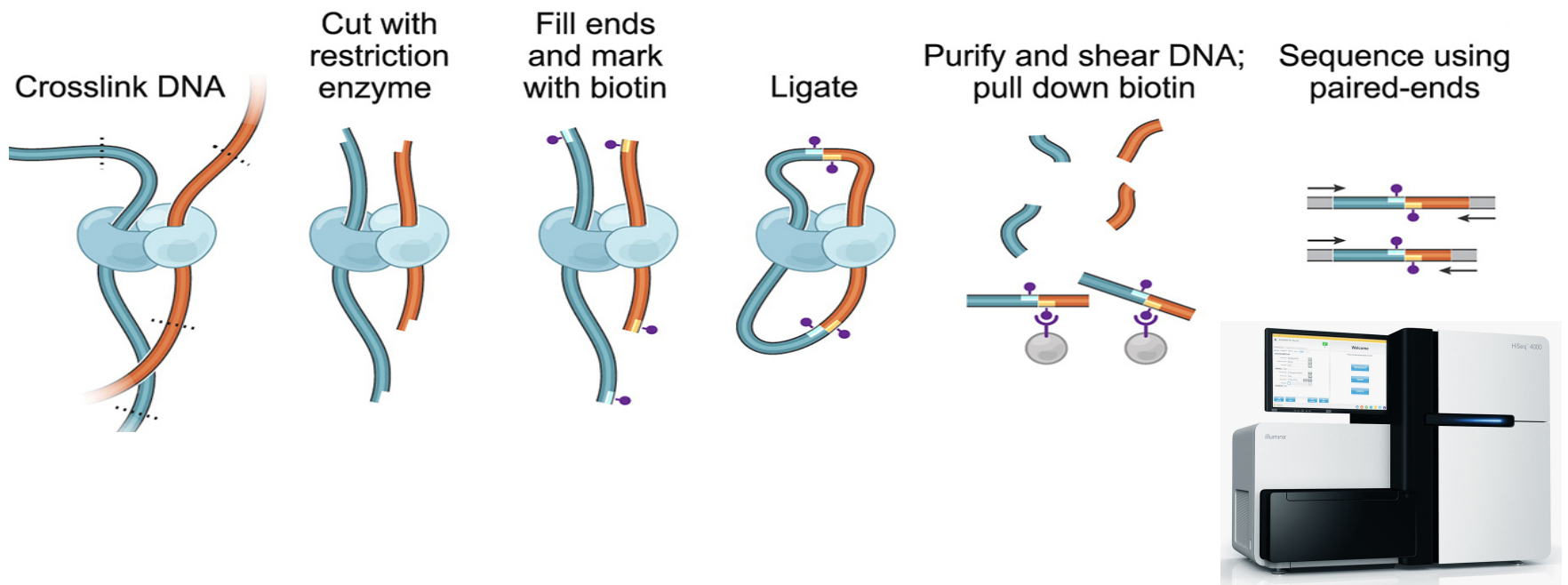


# Topología del genoma



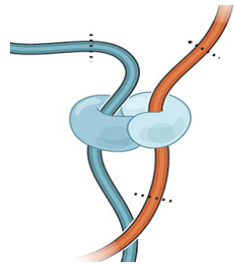
# desde finales de 2016 en Irapuato

## biología molecular: método HiC

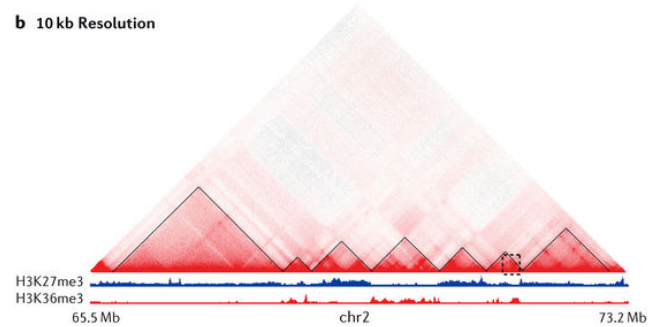


# Topología del genoma

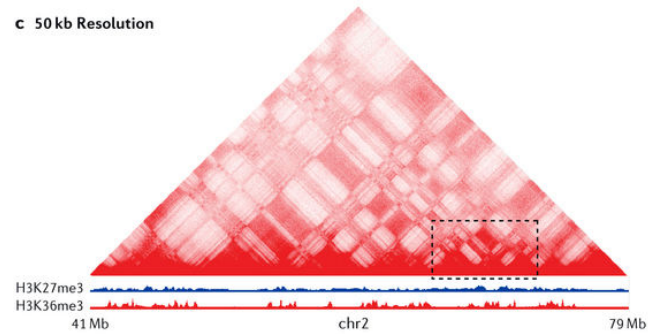
## interacciones enhacer-promotor



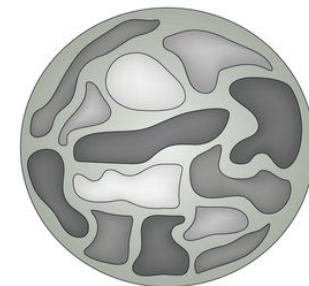
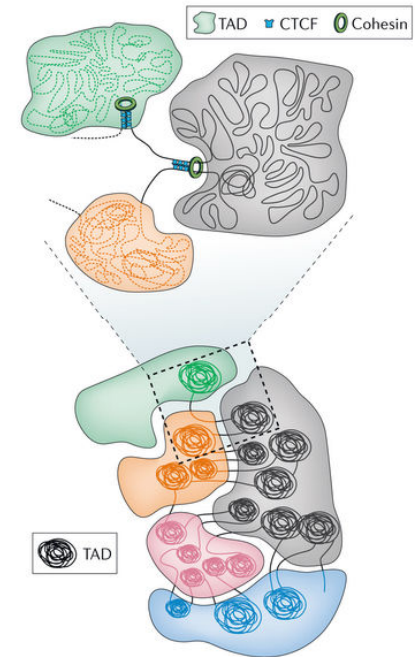
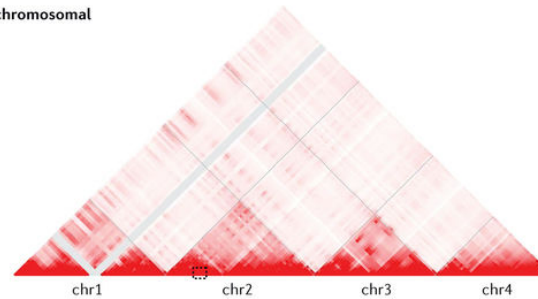
**b** 10 kb Resolution



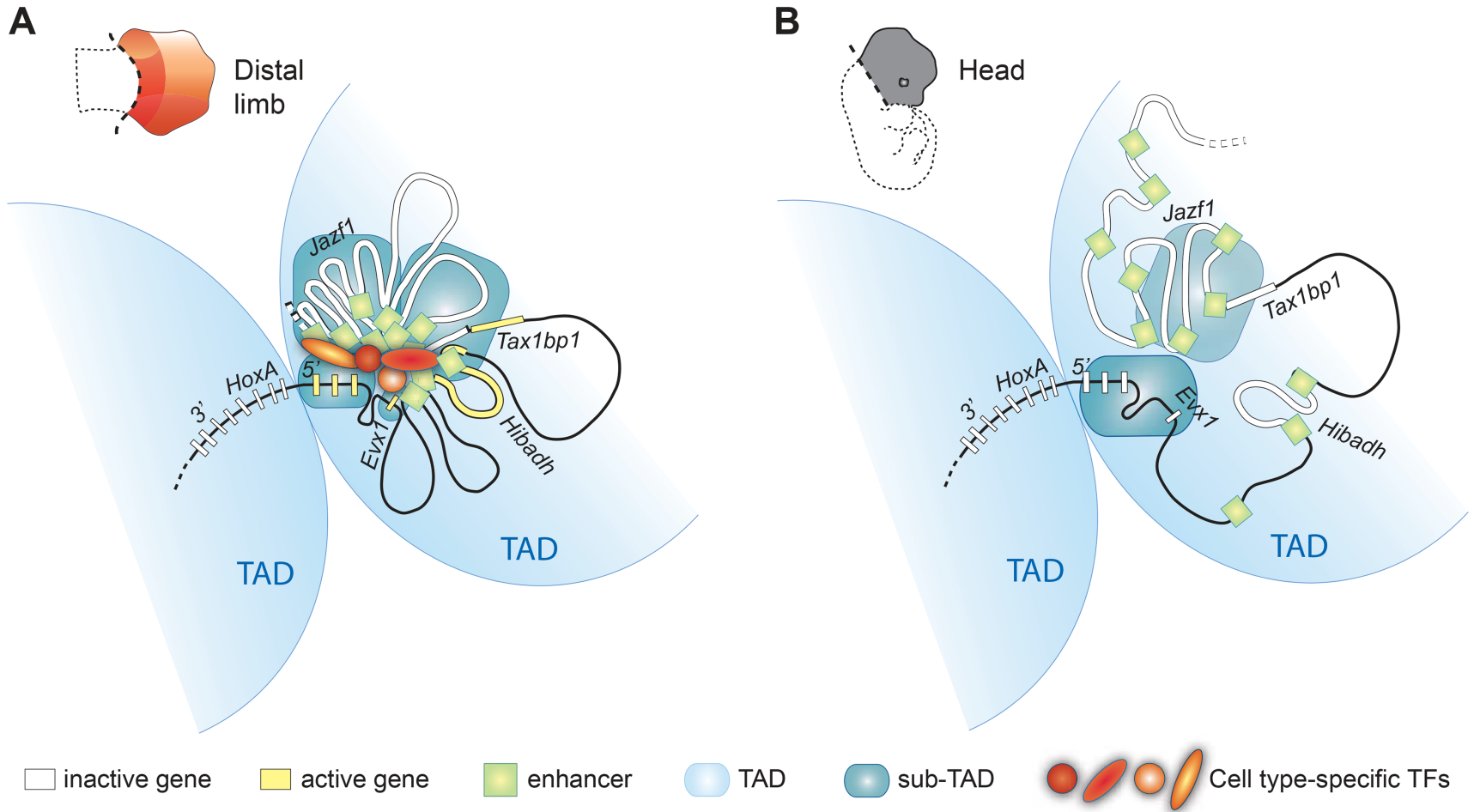
**c** 50 kb Resolution



**d** Interchromosomal



# Topología del genoma: tejido específica?



# Topología del genoma: relevante?

