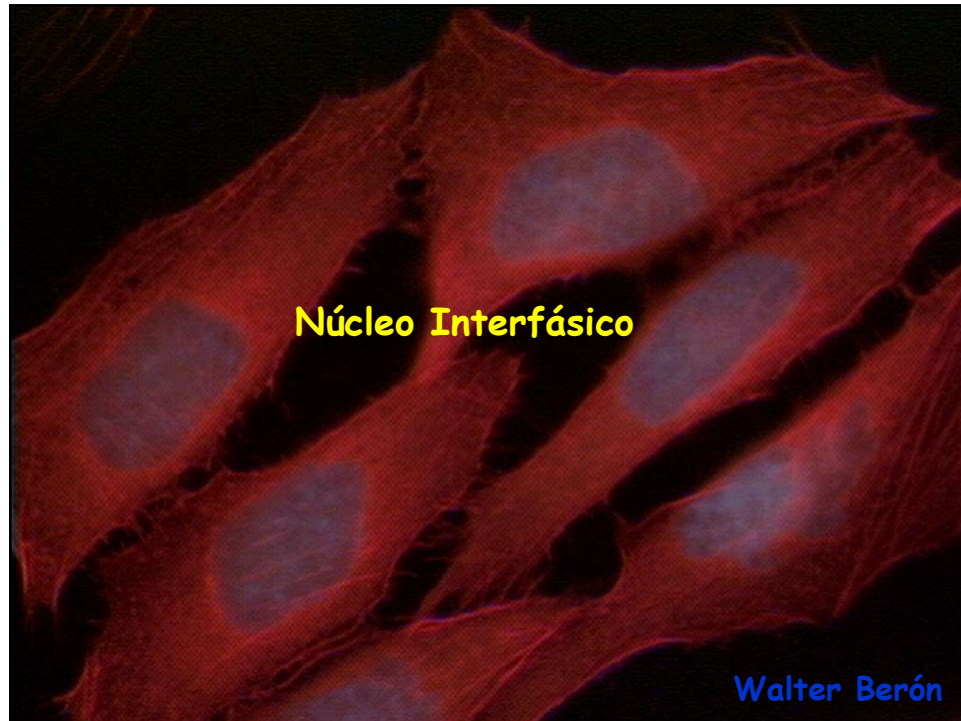


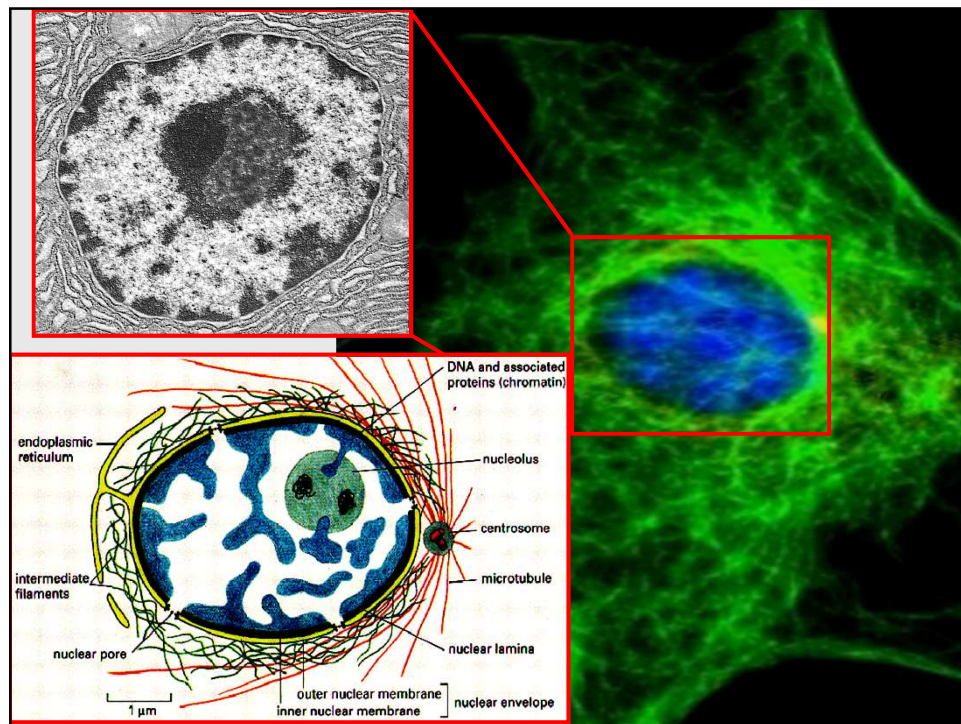


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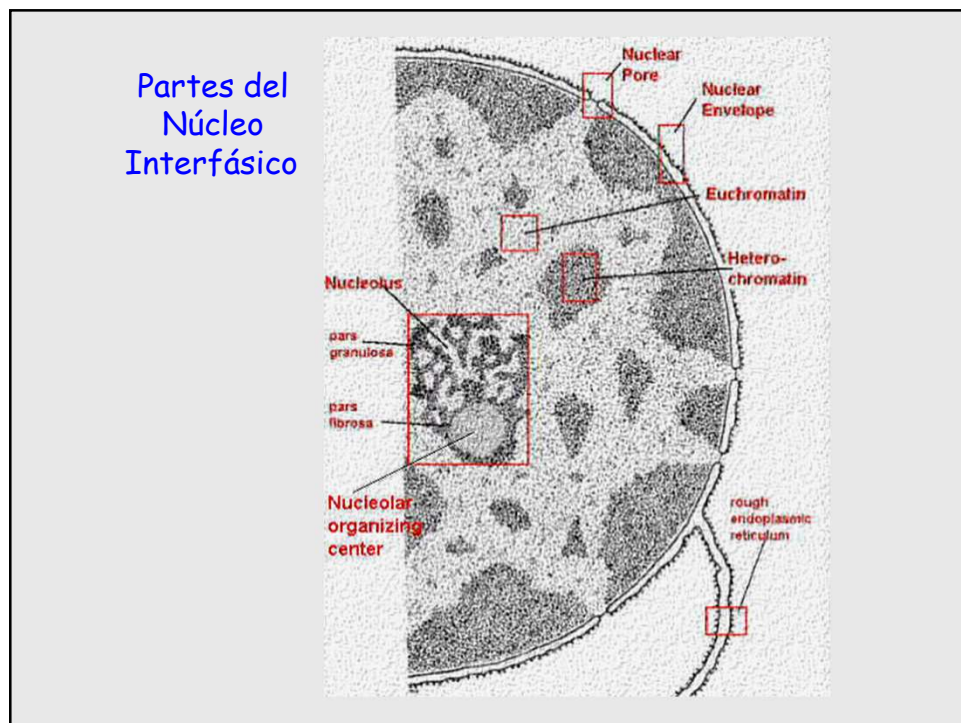
Temario

- Estructura del núcleo celular
- Envoltura nuclear
- Poros nucleares. Complejo de poro
- Transporte núcleo-citoplasma
- Lámina nuclear
- Nucléolo: organizador nucleolar, unidad de transcripción nucleolar
- Compactación del ADN

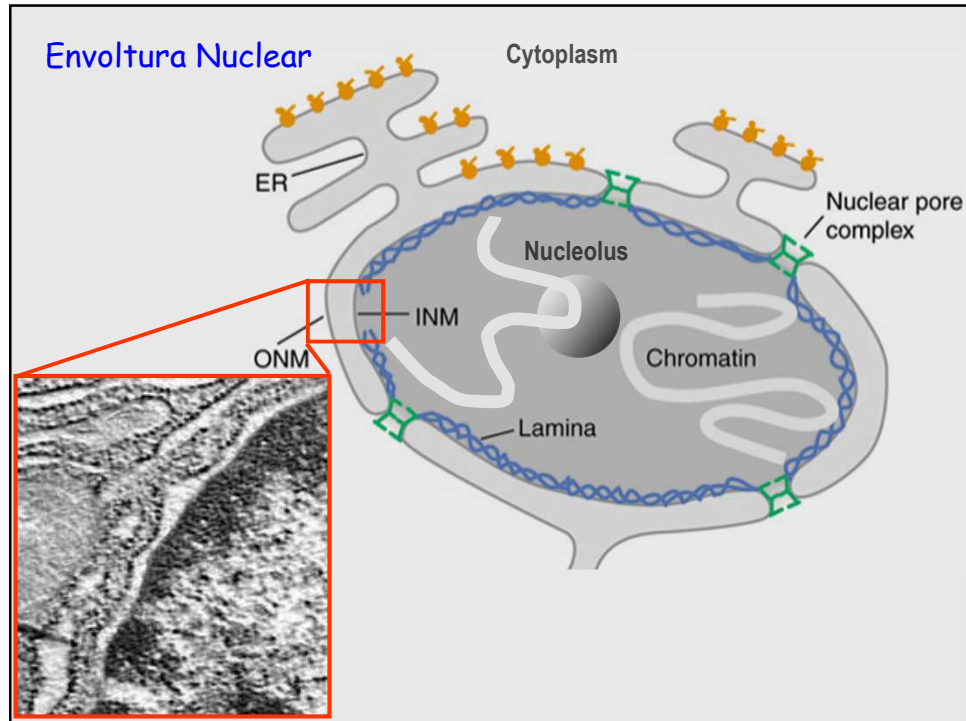
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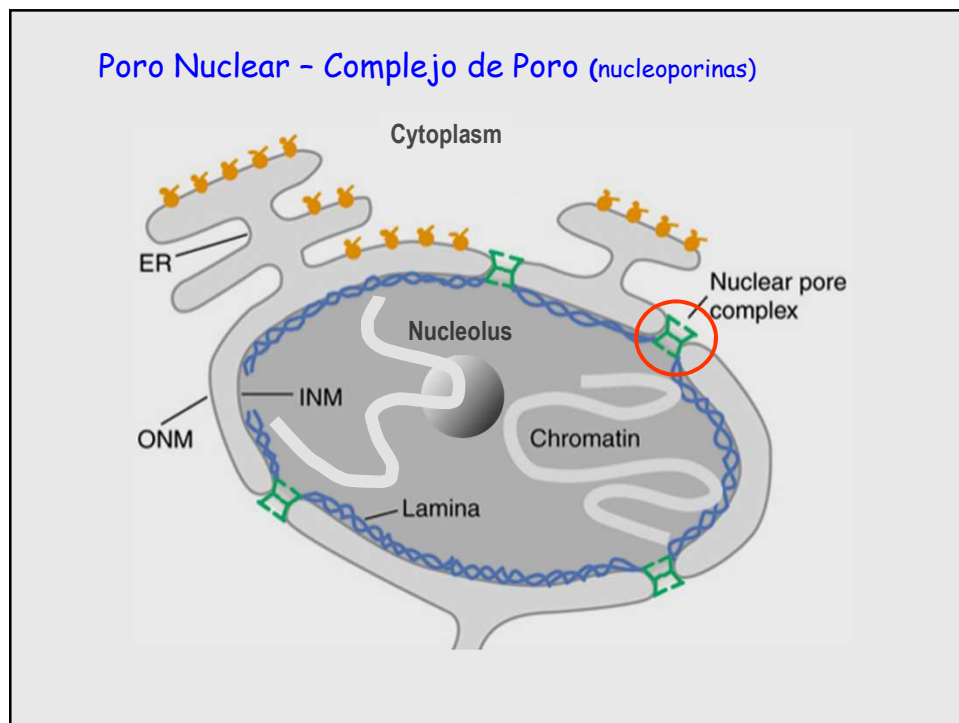
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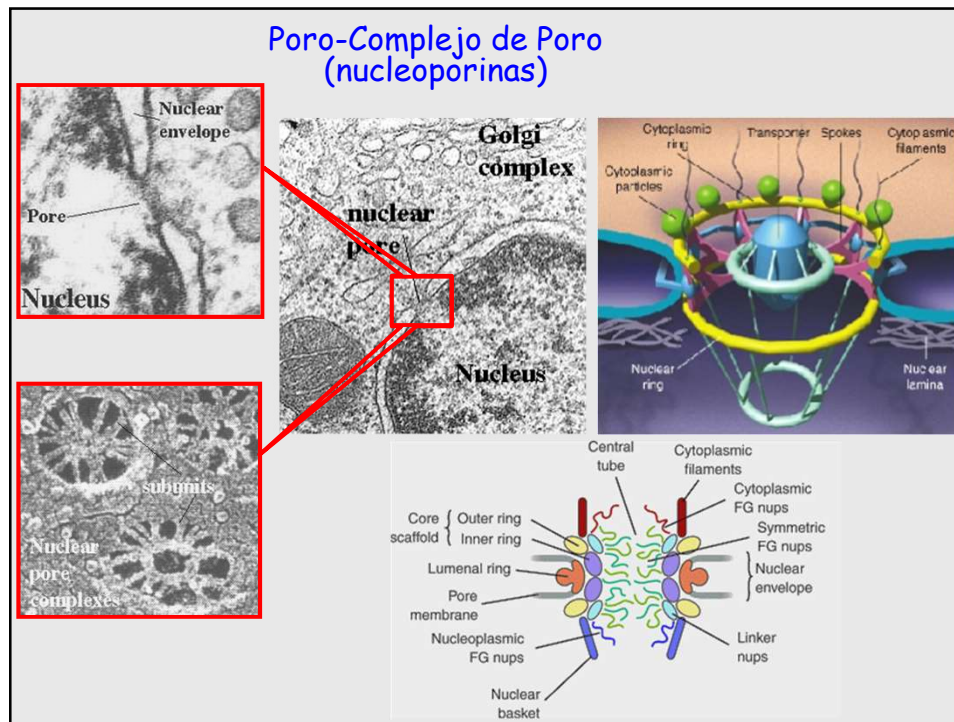
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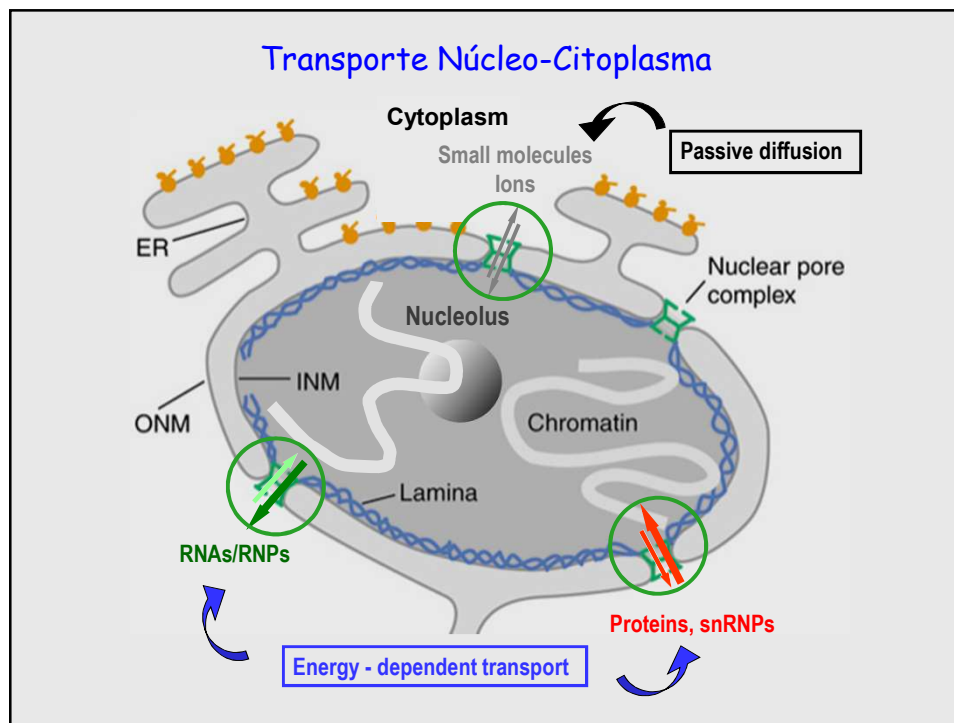
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6



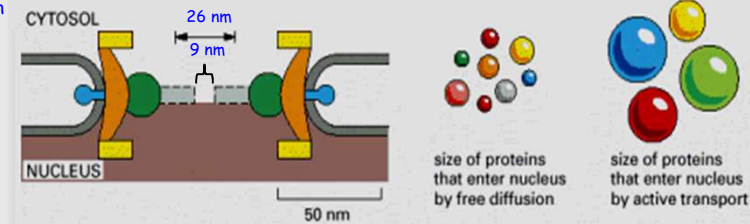
7



8

Tamaño del Poro

Pruebas de difusión



Secuencias Señales en el transporte núcleo-citoplasma

FUNCTION OF SIGNAL SEQUENCE	EXAMPLE OF SIGNAL SEQUENCE
Import into nucleus	-Pro-Pro-Lys-Lys-Lys-Arg-Lys-Val-
Export from nucleus	-Leu-Ala-Leu-Lys-Leu-Ala-Gly-Leu-Asp-Ile-
Import into mitochondria	*H ₃ N-Met-Leu-Ser-Leu-Arg-Gln-Ser-Ile-Arg-Phe-Phe-Lys-Pro-Ala-Thr-Arg-Thr-Leu-Cys-Ser-Ser-Arg-Tyr-Leu-Leu-
Import into plastid	*H ₃ N-Met-Val-Ala-Met-Ala-Met-Ala-Ser-Leu-Gln-Ser-Ser-Met-Ser-Ser-Leu-Ser-Leu-Ser-Ser-Asn-Ser-Phe-Leu-Gly-Gln-Pro-Leu-Ser-Pro-Ile-Thr-Leu-Ser-Pro-Phe-Leu-Gln-Gly-
Import into peroxisomes	-Ser-Lys-Leu-COO ⁻
Import into ER	*H ₃ N-Met-Met-Ser-Phe-Val-Ser-Leu-Leu-Leu-Val-Gly-Ile-Leu-Phe-Trp-Ala-Thr-Glu-Ala-Glu-Gln-Leu-Thr-Lys-Cys-Glu-Val-Phe-Gln-
Return to ER	-Lys-Asp-Glu-Leu-COO ⁻

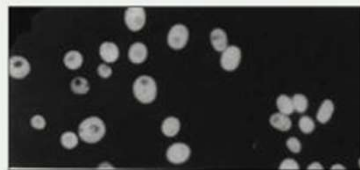
Some characteristic features of the different classes of signal sequences are highlighted in color. Where they are known to be important for the function of the signal sequence, positively charged amino acids are shown in red and negatively charged amino acids are shown in green. Similarly, important hydrophobic amino acids are shown in yellow and hydroxylated amino acids are shown in blue. *H₃N indicates the N-terminus of a protein; COO⁻ indicates the C-terminus.

9

Localización del antígeno-T del virus SV40

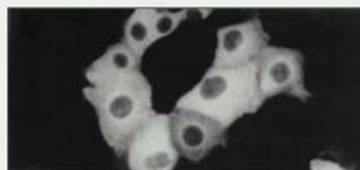
(A) LOCALIZATION OF T-ANTIGEN CONTAINING ITS NORMAL NUCLEAR IMPORT SIGNAL

Pro-Pro-Lys-Lys-Lys-Arg-Lys-Val-

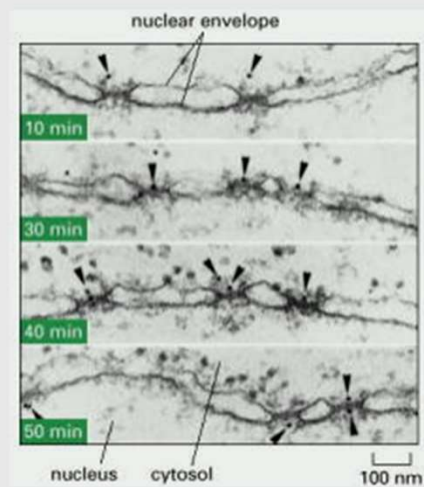


(B) LOCALIZATION OF T-ANTIGEN CONTAINING A MUTATED NUCLEAR IMPORT SIGNAL

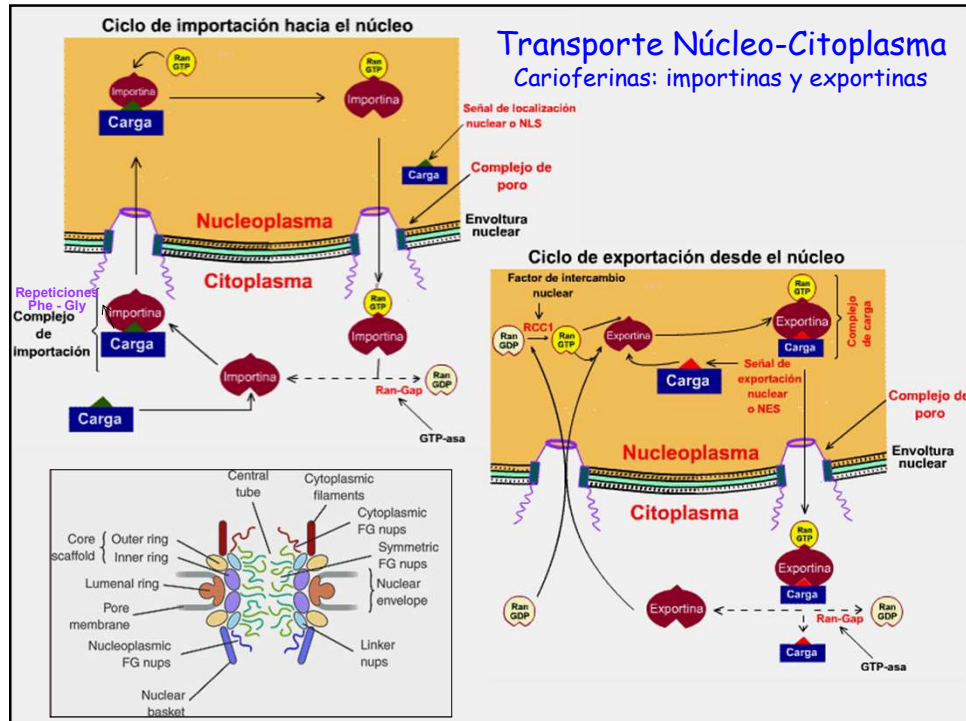
Pro-Pro-Lys-Thr-Lys-Arg-Lys-Val-



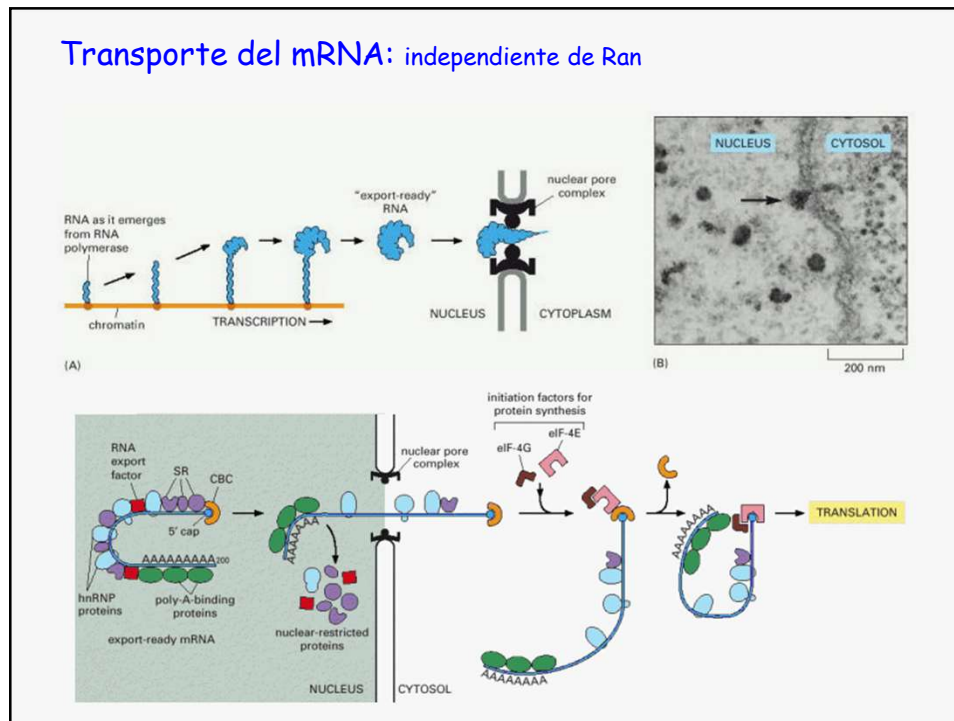
Micrografías mostrando el transporte de partículas de oro coloidal recubiertas con un péptido con señal de localización nuclear



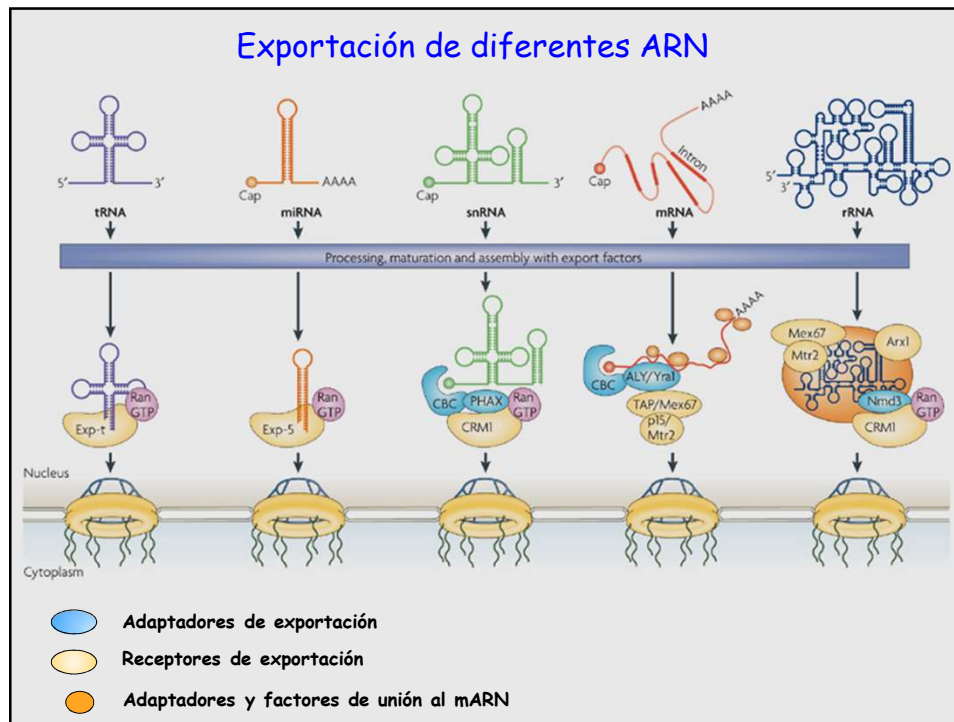
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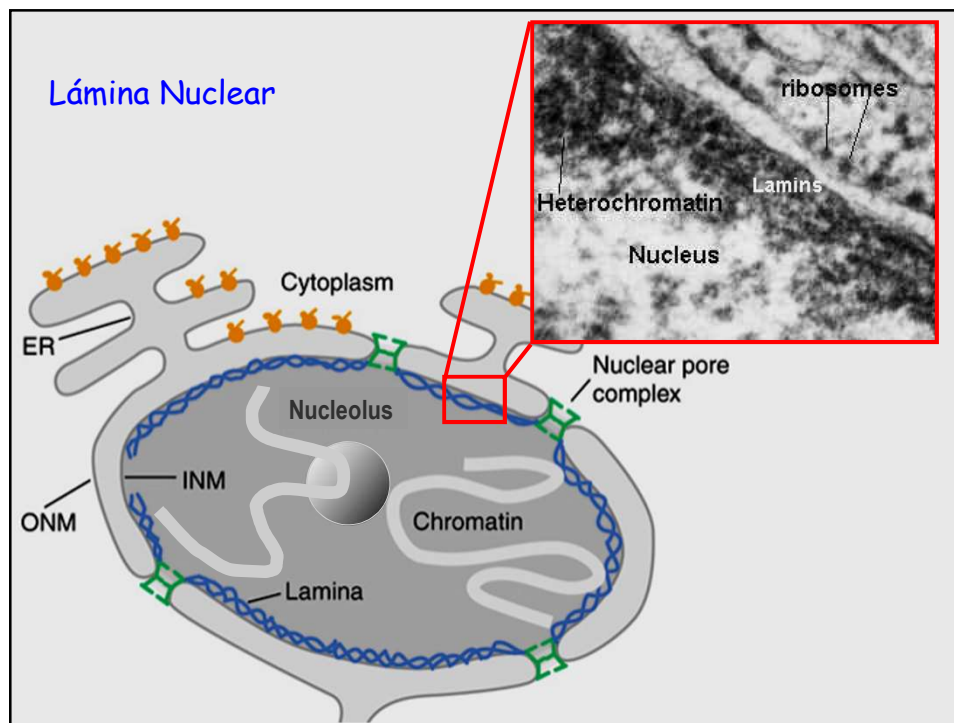
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12

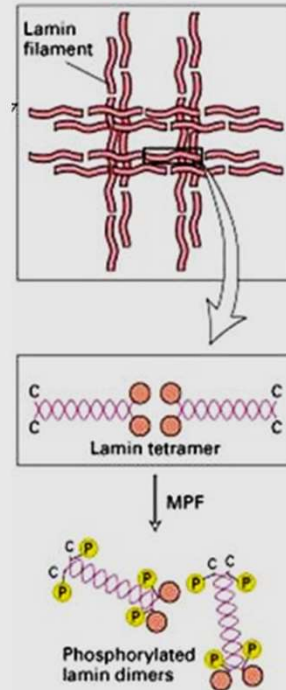
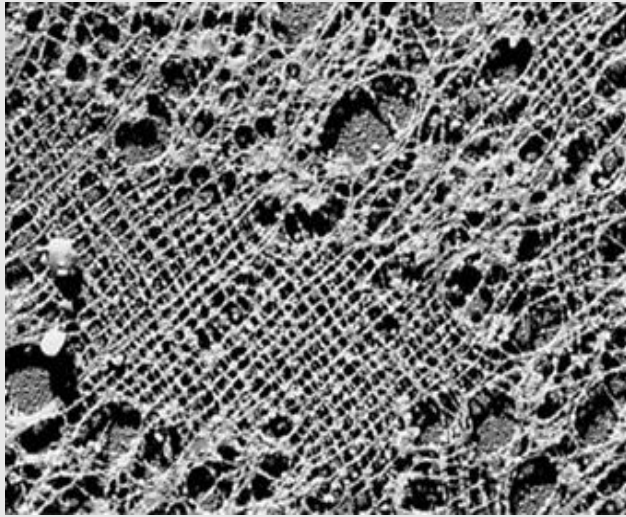


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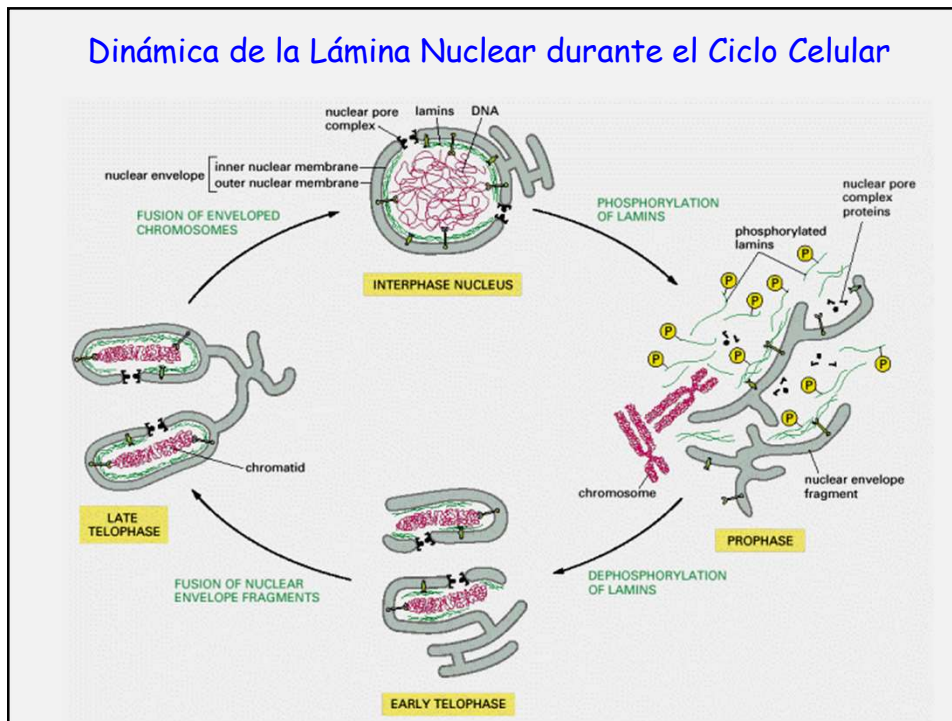
14

Estructura de la Lámina Nuclear

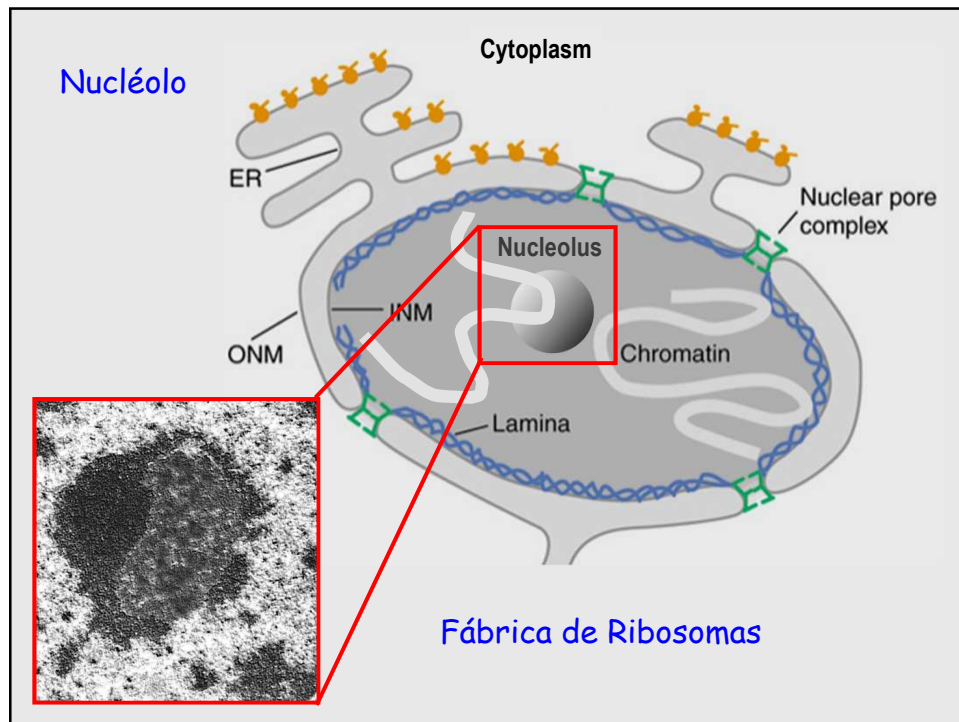


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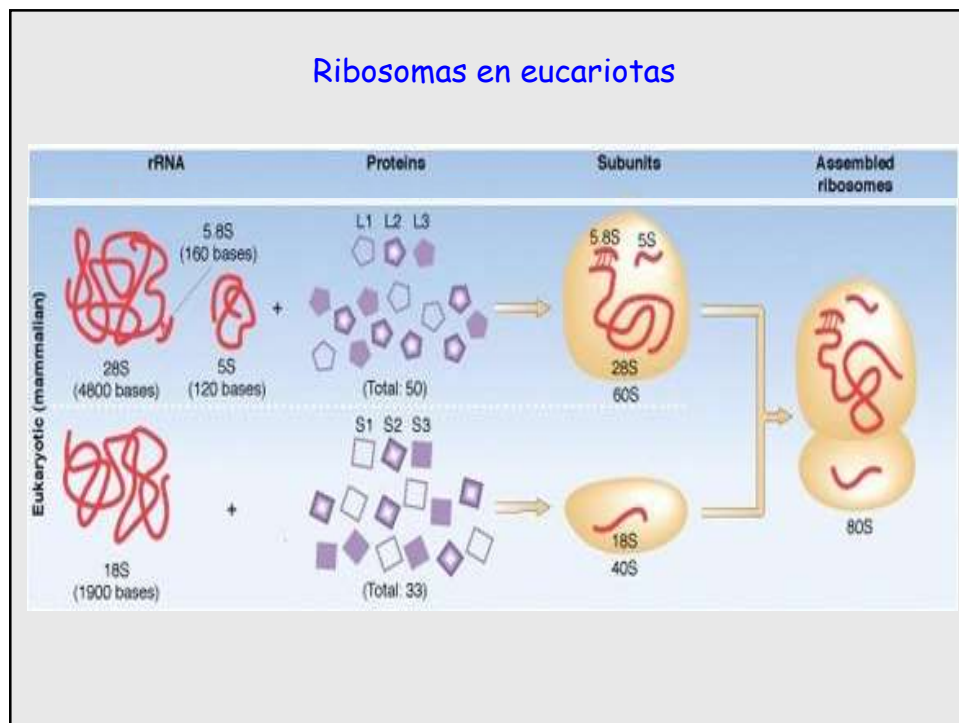
Dinámica de la Lámina Nuclear durante el Ciclo Celar



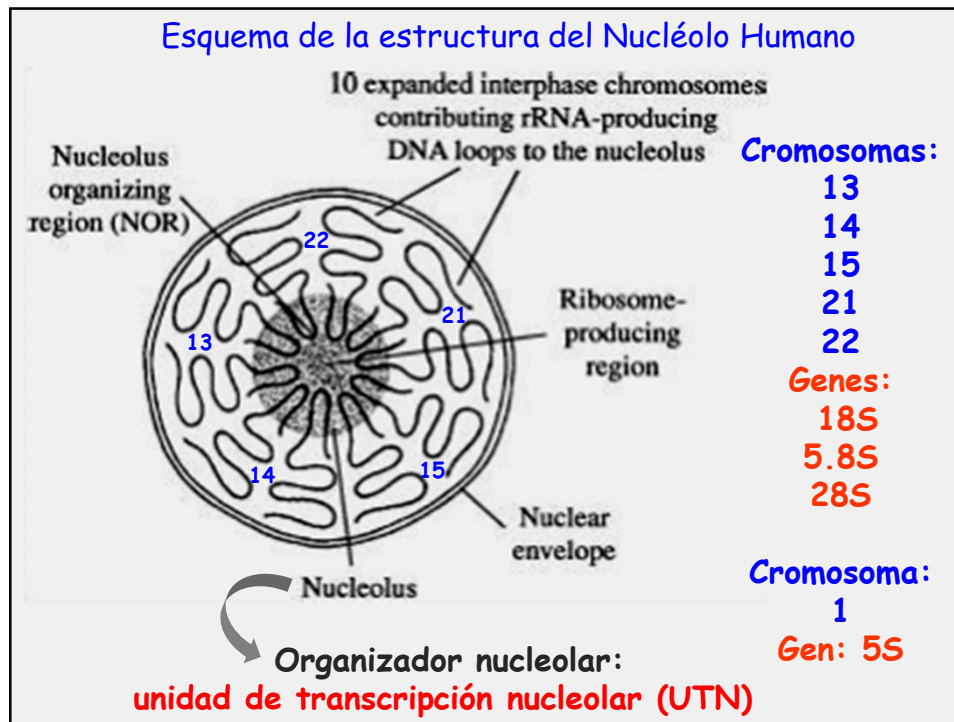
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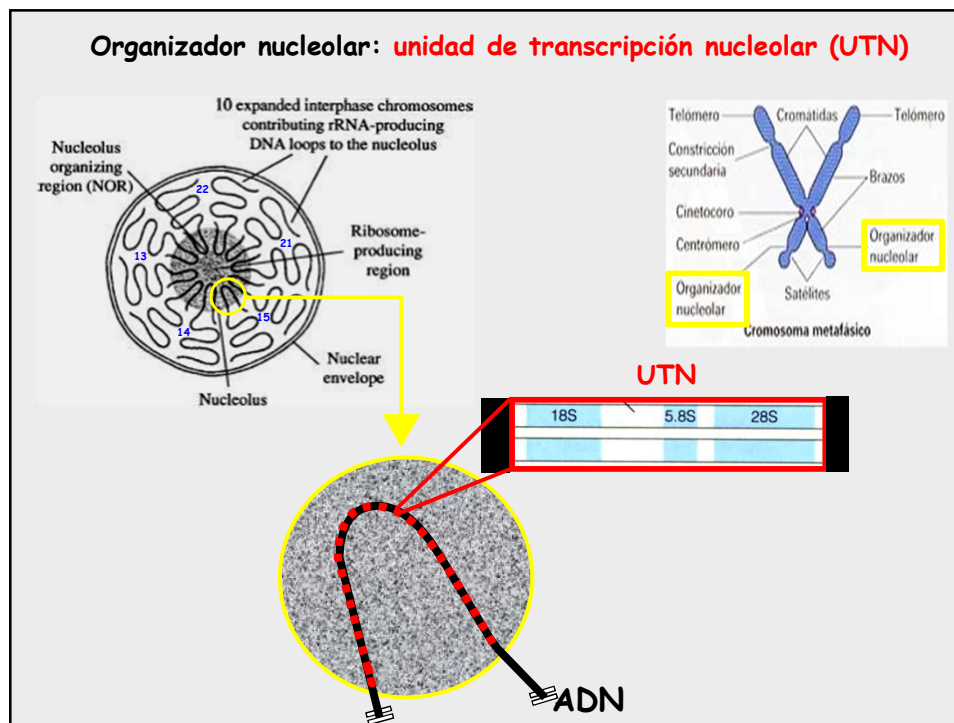
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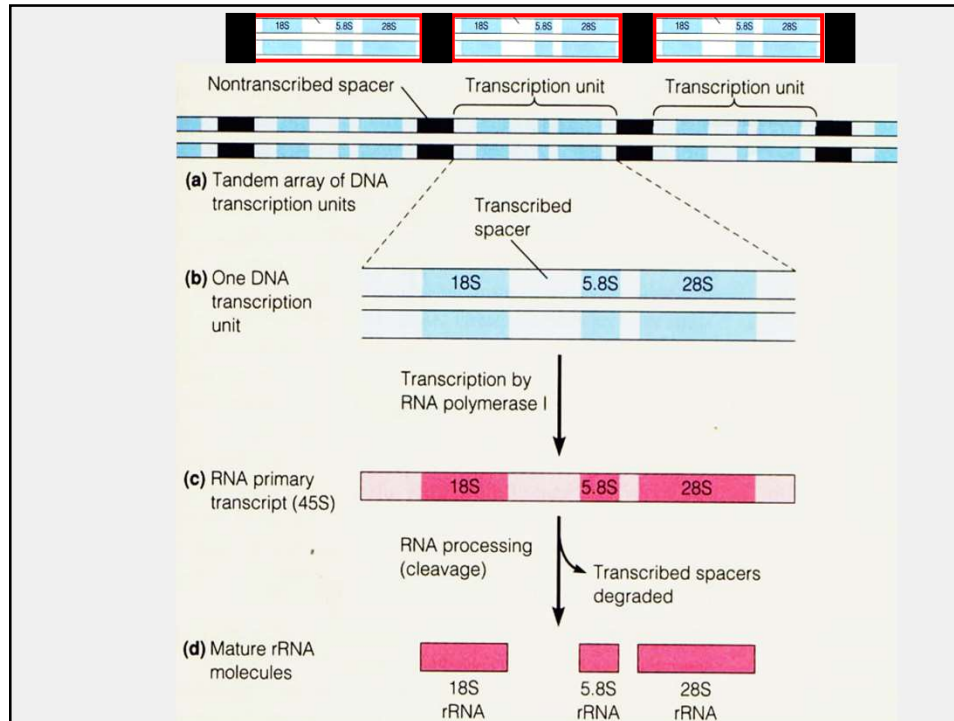
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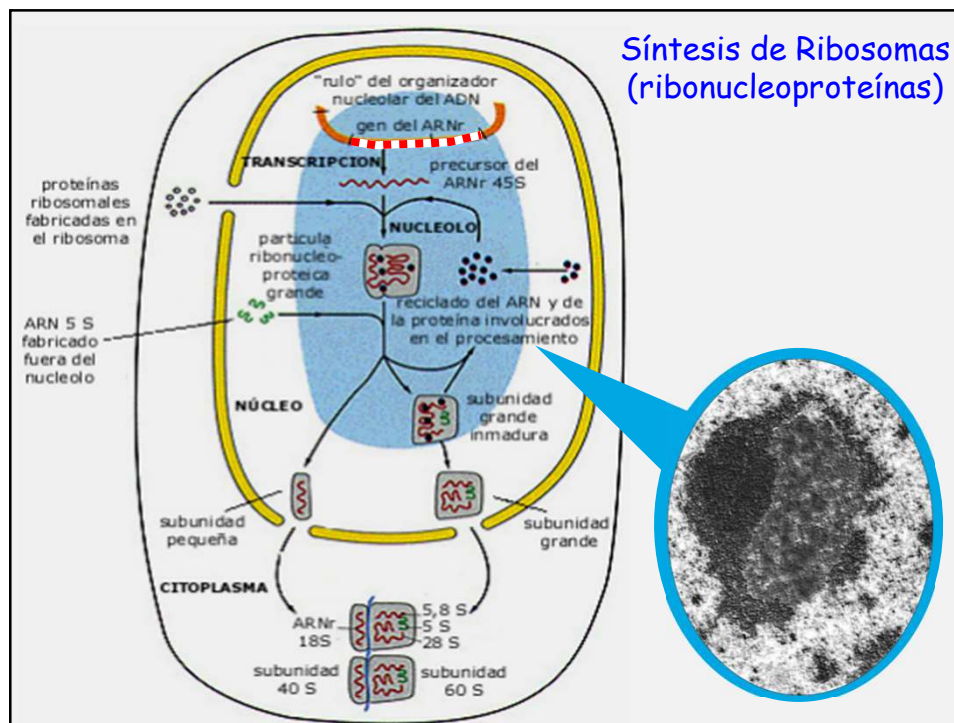
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20



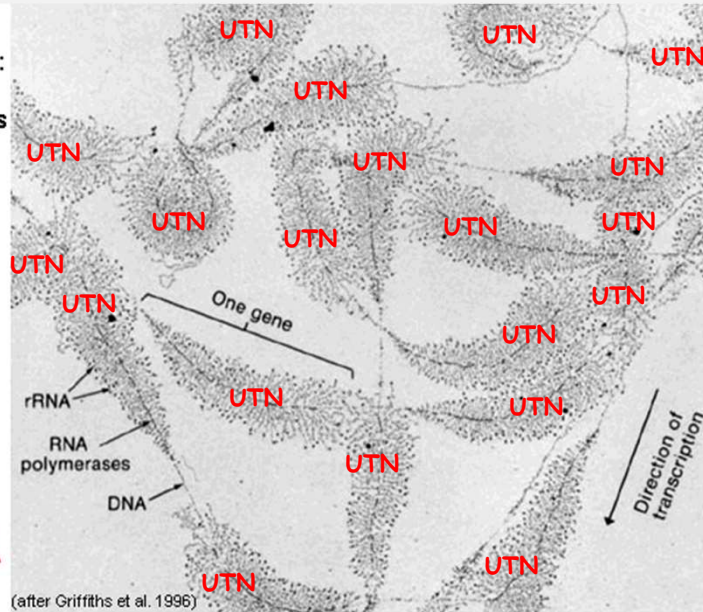
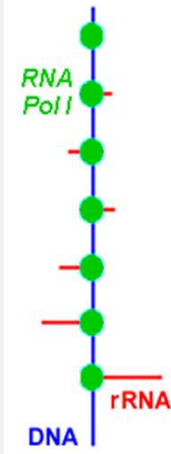
21



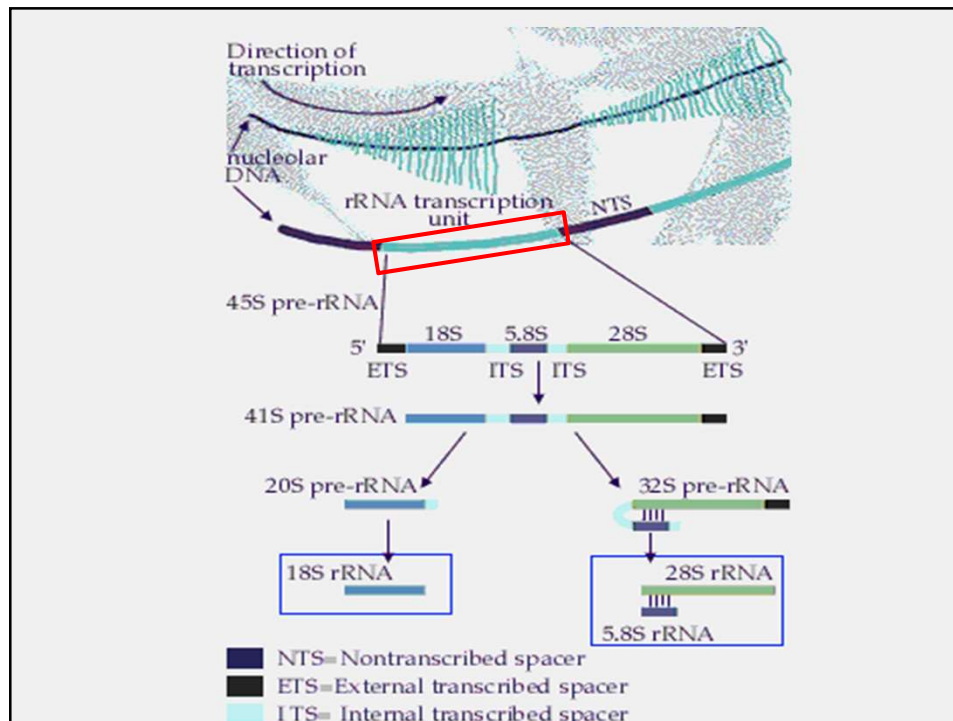
22

Organizador nucleolar: varias UTN

Transcription
in Eukaryotes:
"Lampbrush"
Chromosomes

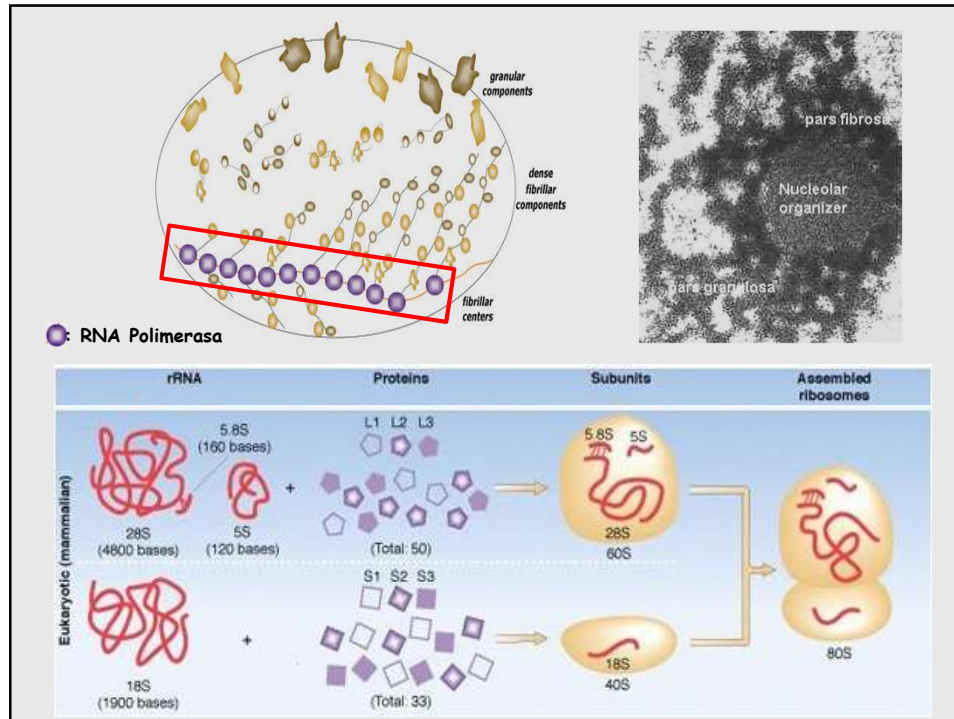


23

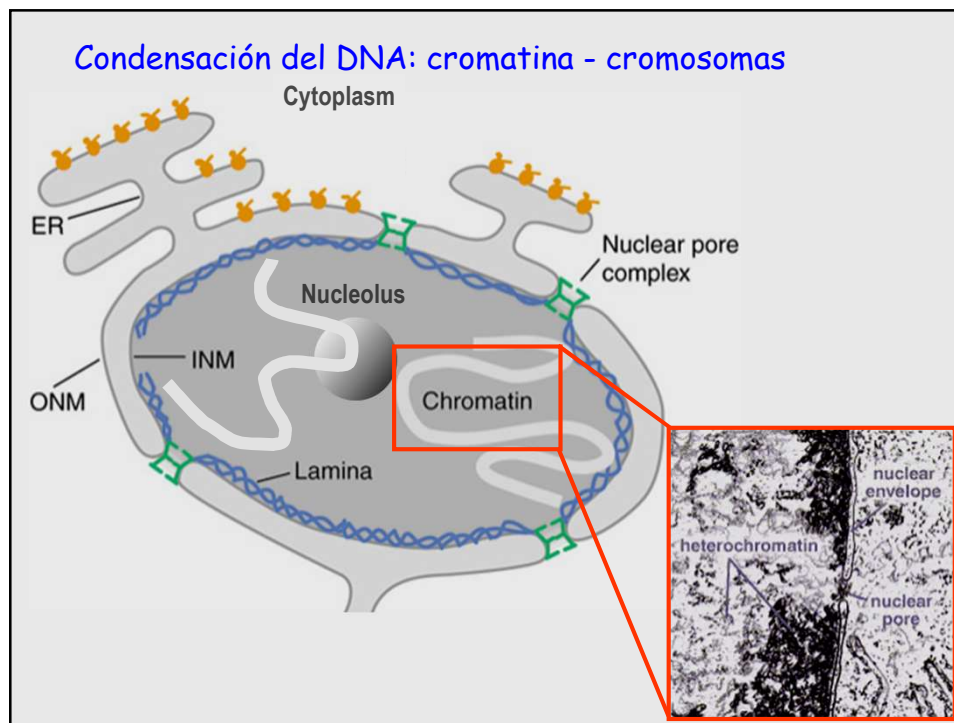


24

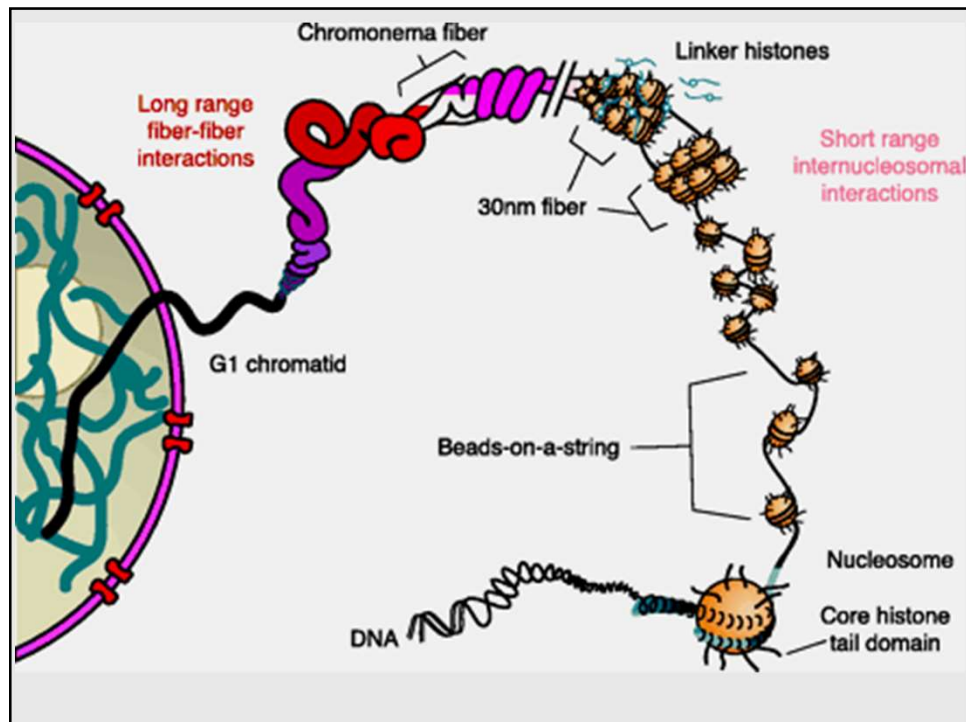




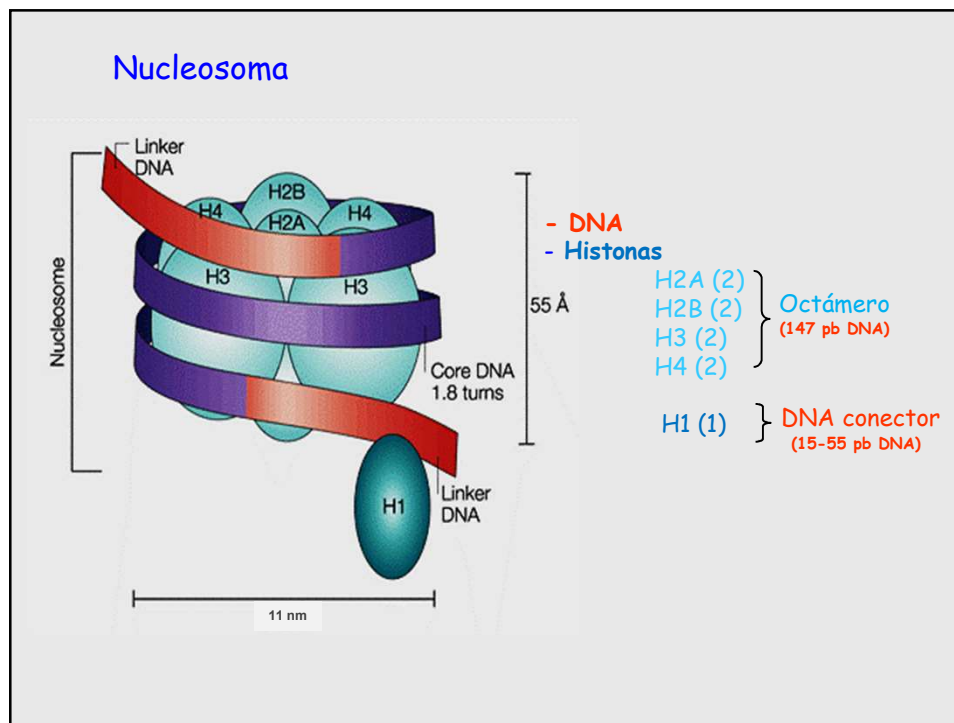
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28

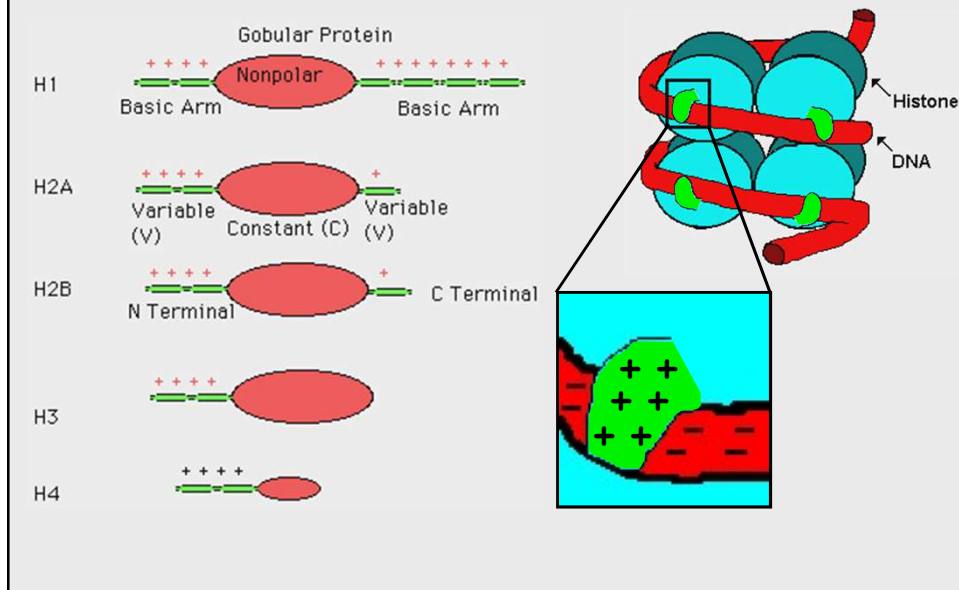


29



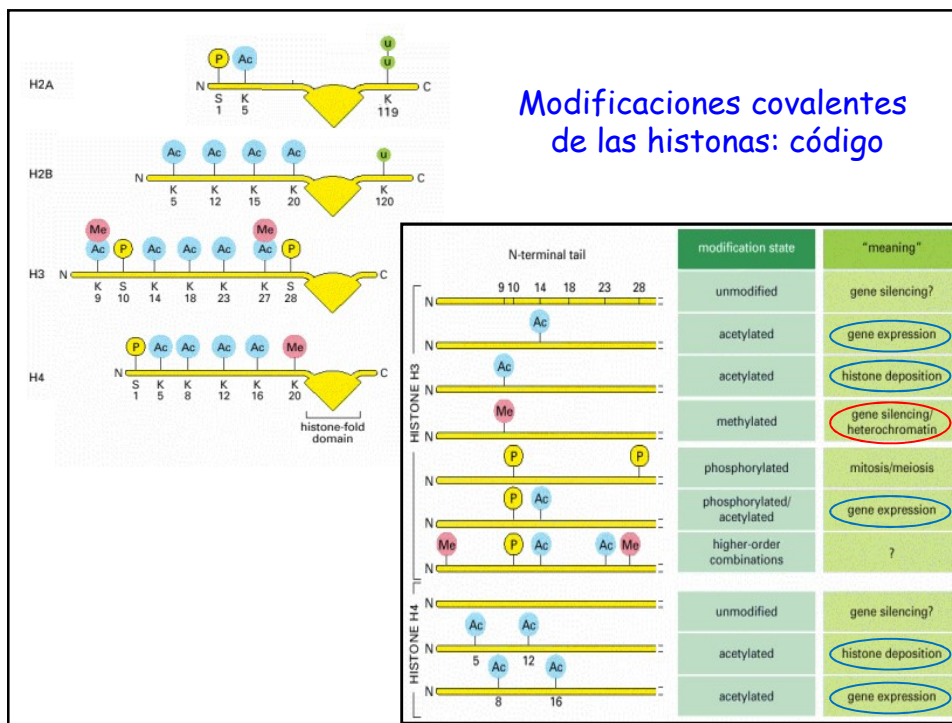
30

Estructura de las proteínas Histonas



31

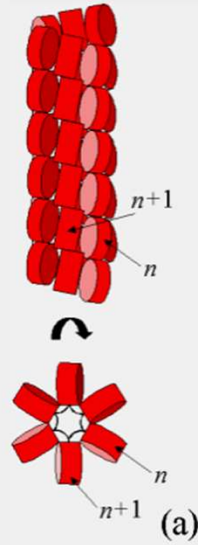
Modificaciones covalentes de las histonas: código



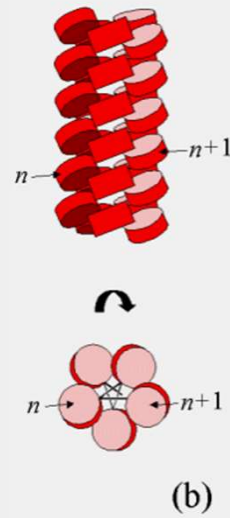
32

Estructura de la fibra cromatínica de 30 nm

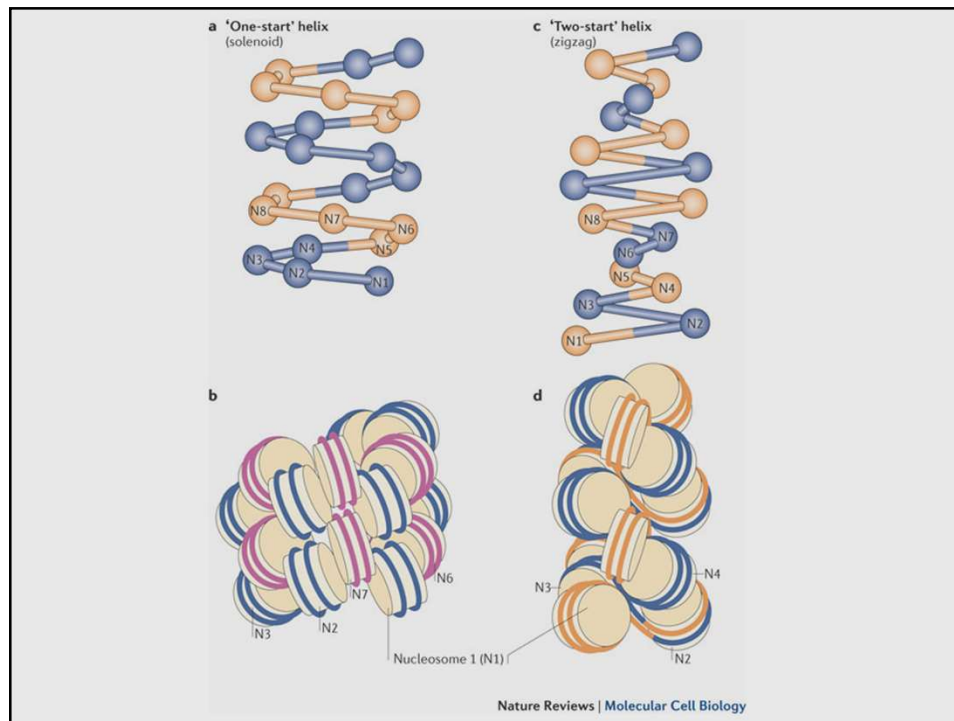
Modelo Solenoide



Modelo Zigzag

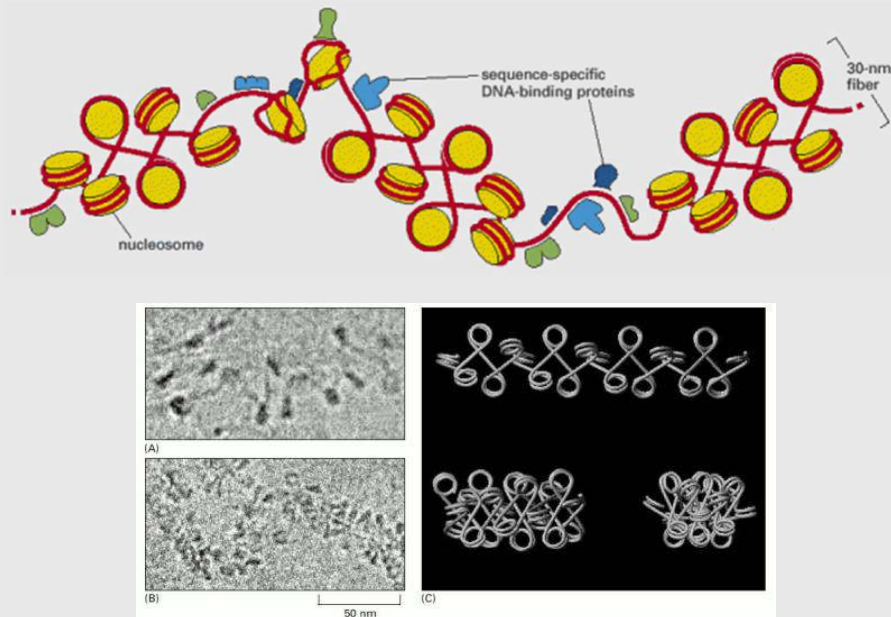


33



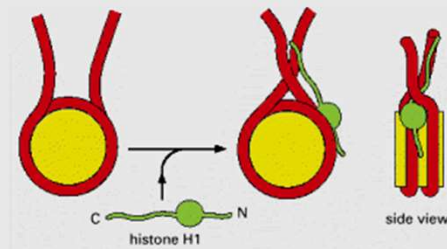
34

Irregularidades en la fibra de 30 nm

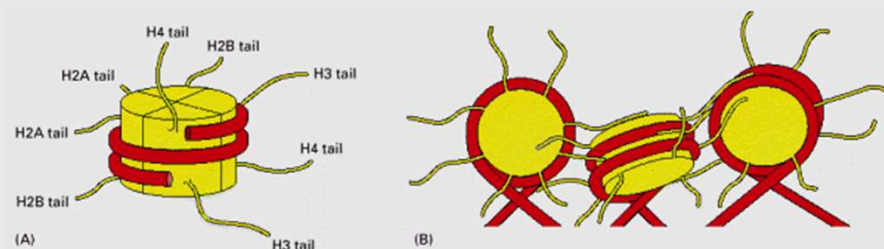


35

Modelo de compactación de DNA en nucleosomas por H1

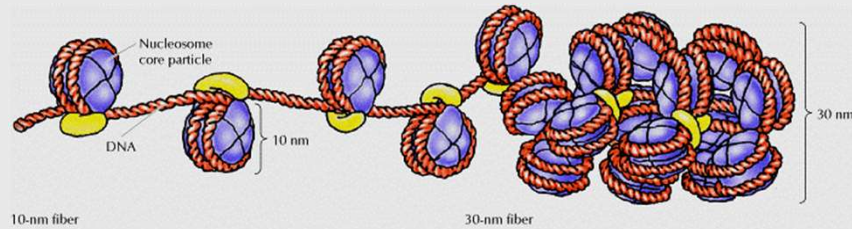


Modelo de interacción de las histonas en la fibra de 30 nm



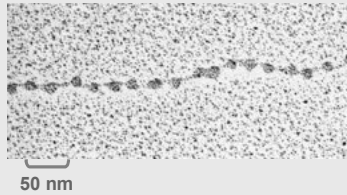
36

Fibras de cromatina de 10 y 30 nm

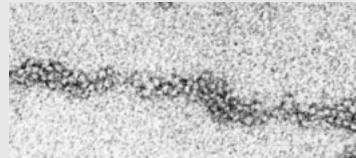


Electromicrografías de cromatina aislada de núcleo

- baja concentración salina
- sin Mg^{2+}

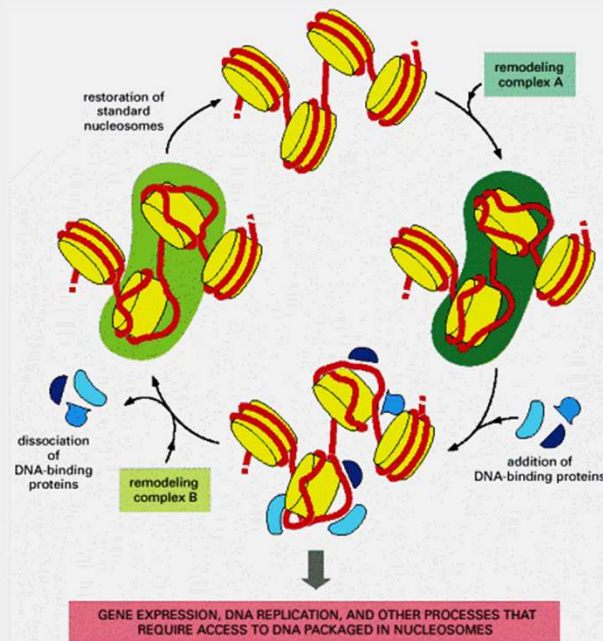


- 150 mM KCl
- 4 mM Mg^{2+}



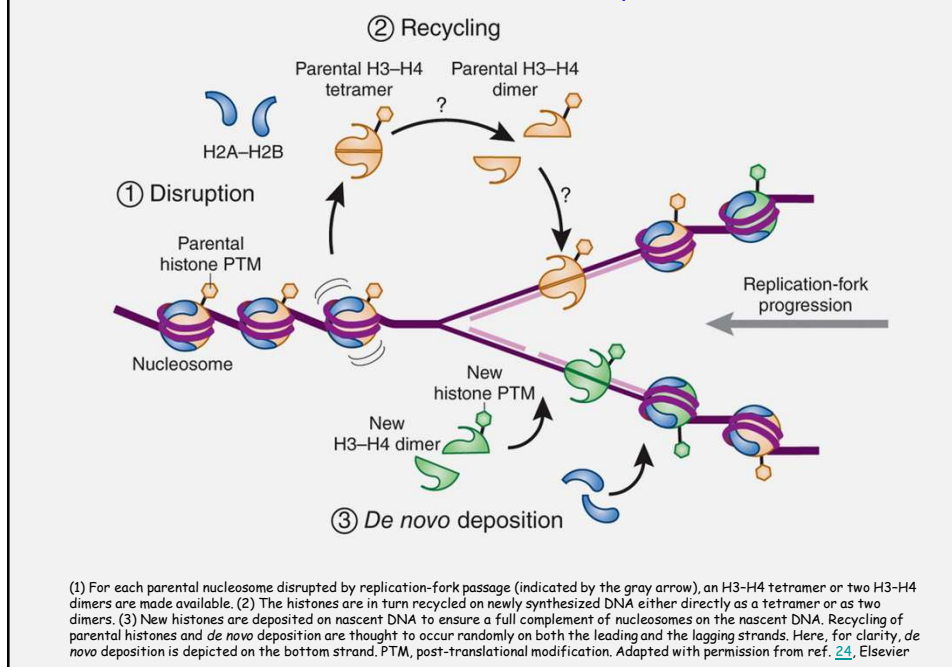
37

Mecanismo cíclico para la disrupción y reformación de nucleosomas: complejos de remodelación



38

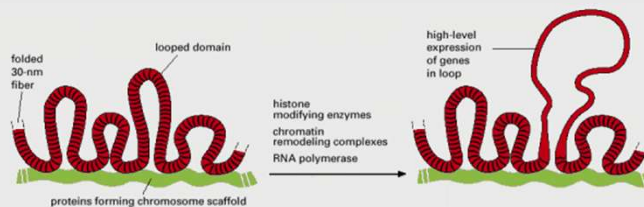
Ensamble de Histonas durante la Replicación del DNA



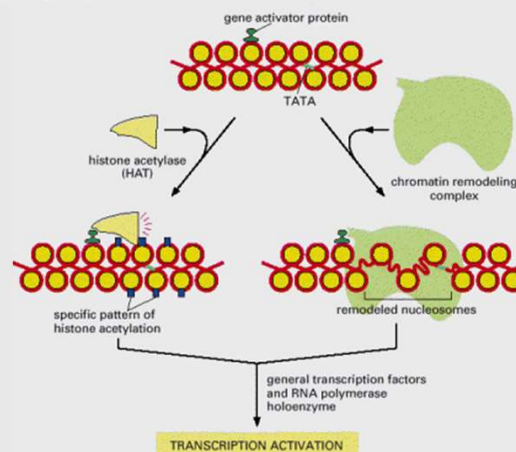
39

Modificación de la cromatina en el proceso de transcripción

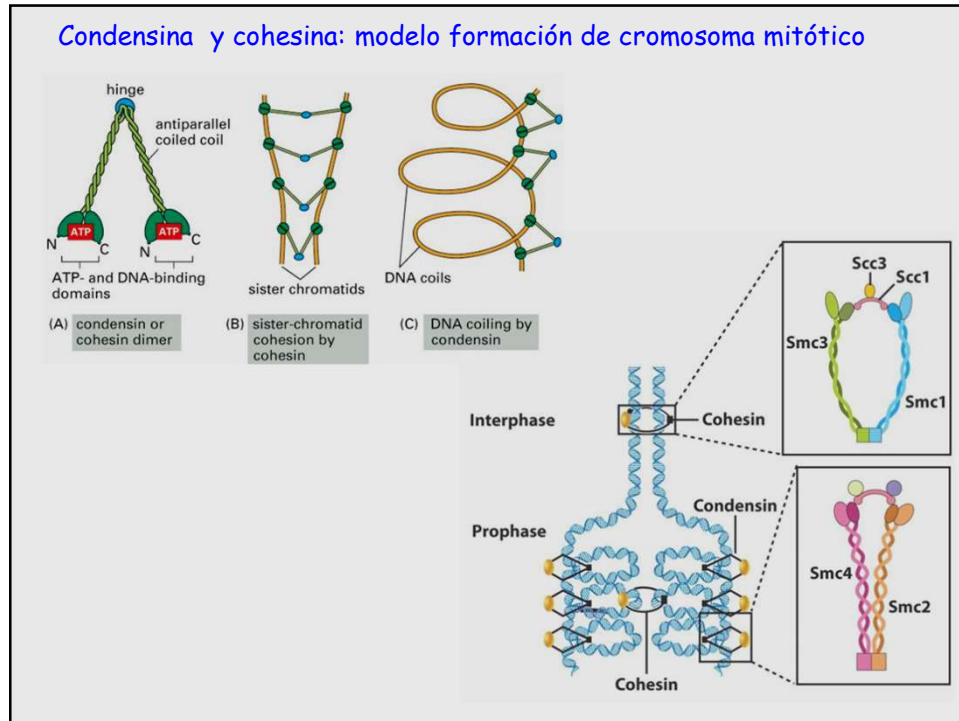
Modelo para la estructura
de cromosomas interfásico



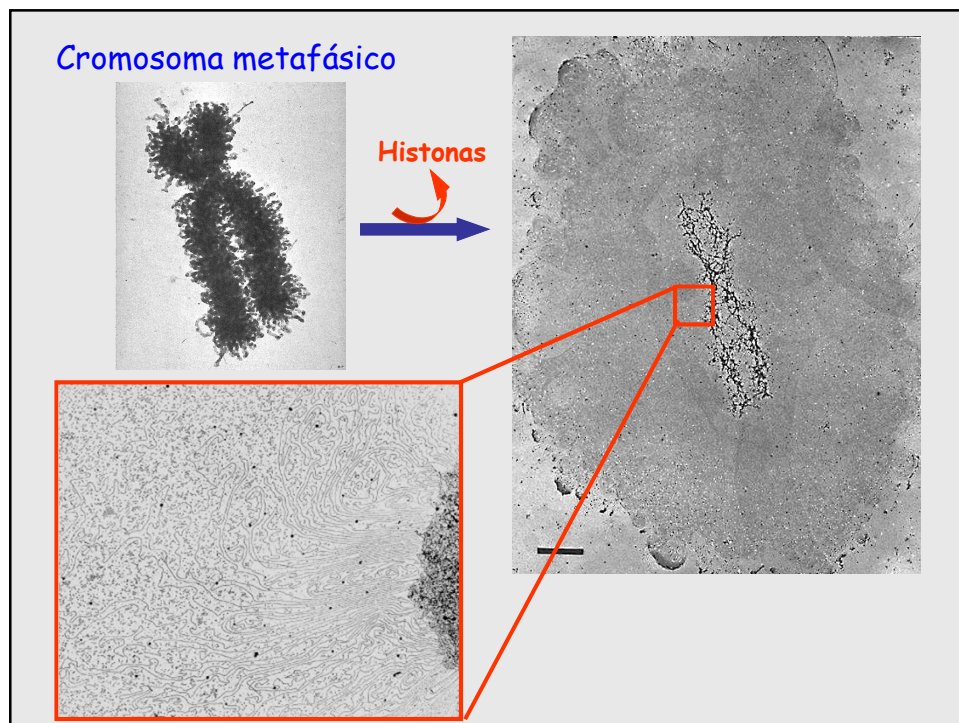
Alteración local de la estructura de la
cromatina inducida por proteínas
activadoras de genes



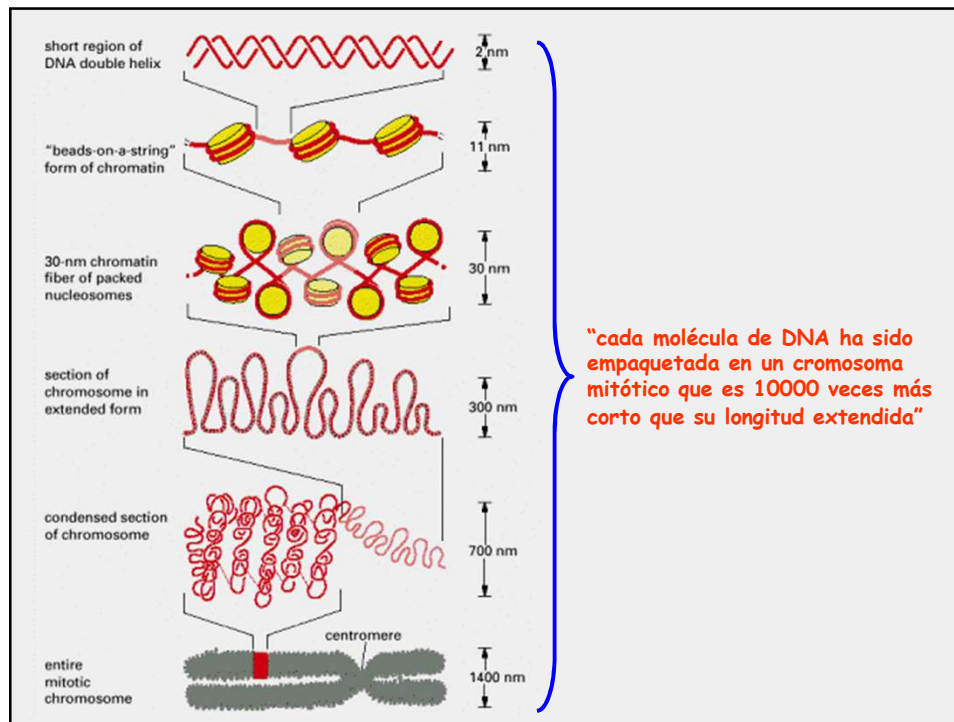
40



41



42



43

RESUMEN sobre Núcleo Interfásico

- Diferentes estructura del núcleo
- Envoltura nuclear: rol de la lámina nuclear en la integridad del núcleo a largo del ciclo celular
- Transporte núcleo-citoplasma: Mecanismo, poros y complejo de poro
- Nucléolo: definición de organizador nucleolar y unidad de transcripción nucleolar, síntesis de ribosomas
- Grados de compactación del ADN: rol de las histonas

44