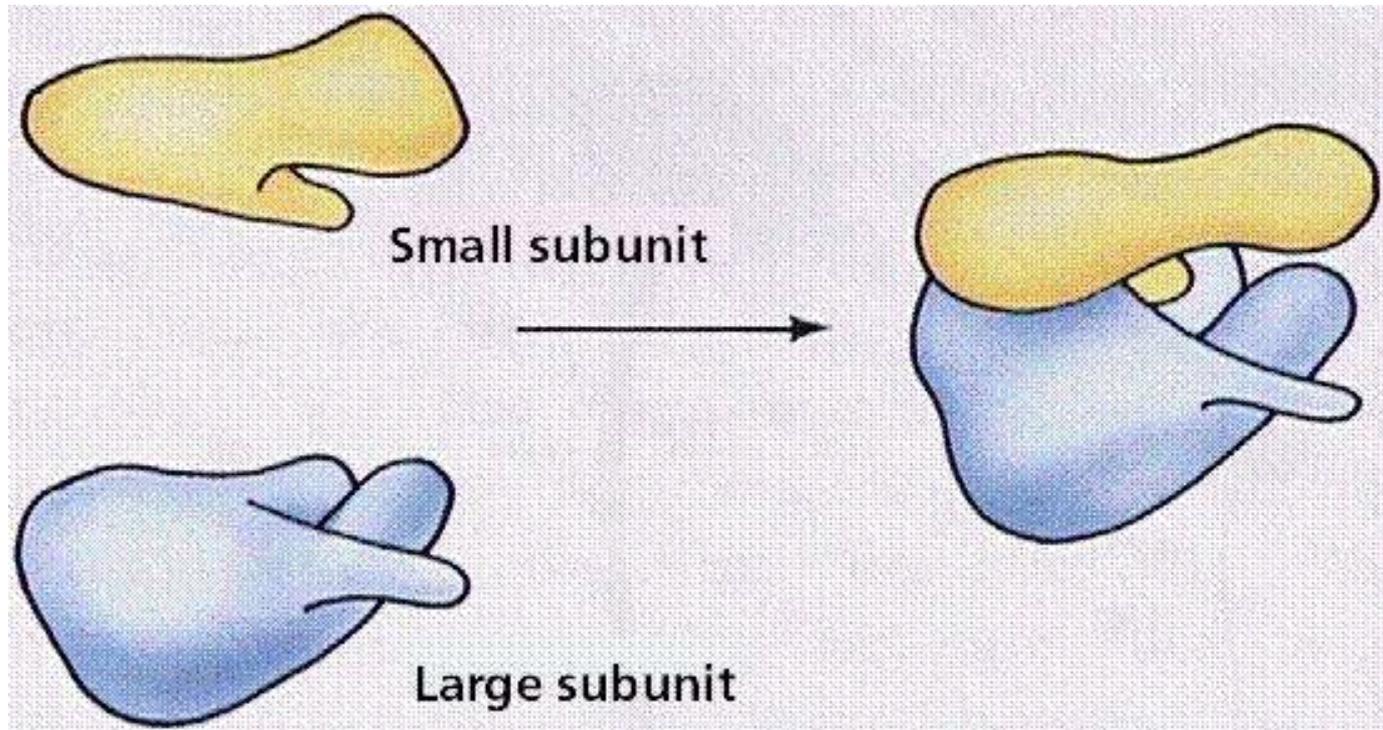


RIBOSOMAS

**Presentación organizada por
José Antonio Pascual Trillo**

- Los ribosomas son complejos ribonucleoproteicos: **ARN + proteínas**
- Carecen de membranas
- Son muy numerosos (varios millones por célula)



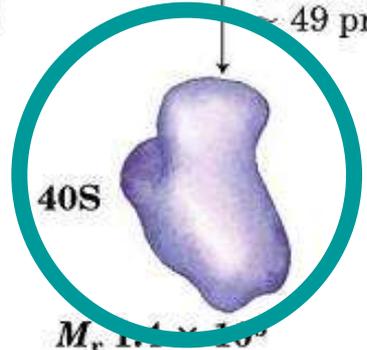
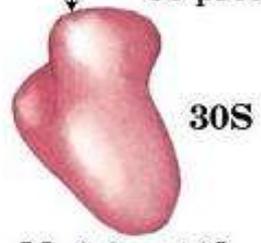
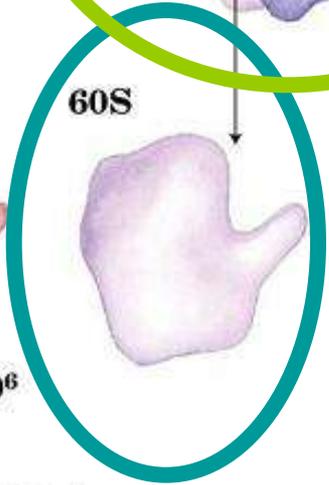
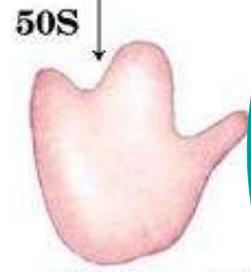
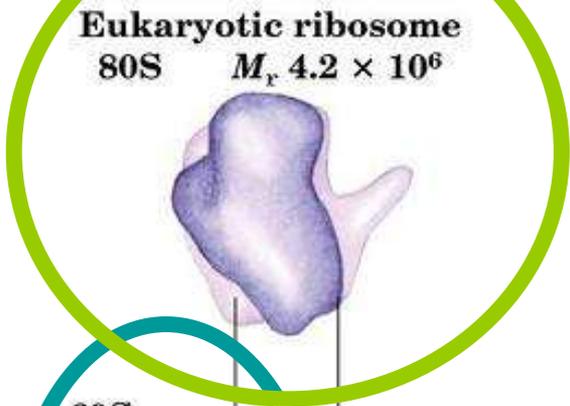
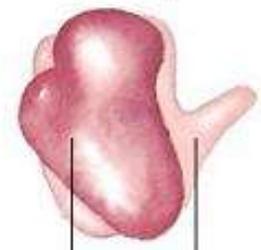
Están formados por **dos subunidades**: pequeña y grande

el conjunto forma una estructura de unos 20 nm. de diámetro ($1 \text{ mm} = 10^6 \text{ nm}$).

RIBOSOMAS

Bacterial ribosome
70S $M_r 2.7 \times 10^6$

Eukaryotic ribosome
80S $M_r 4.2 \times 10^6$



50S
 $M_r 1.8 \times 10^6$
5S rRNA (120 nucleotides)
23S rRNA (3,200 nucleotides)
36 proteins

60S
 $M_r 2.8 \times 10^6$
5S rRNA (120 nucleotides)
28S rRNA (4,700 nucleotides)
5.8S rRNA (160 nucleotides)
~ 49 proteins

30S
 $M_r 0.9 \times 10^6$
16S rRNA (1,540 nucleotides)
21 proteins

40S
 $M_r 1.1 \times 10^6$
18S rRNA (1,900 nucleotides)
~ 33 proteins

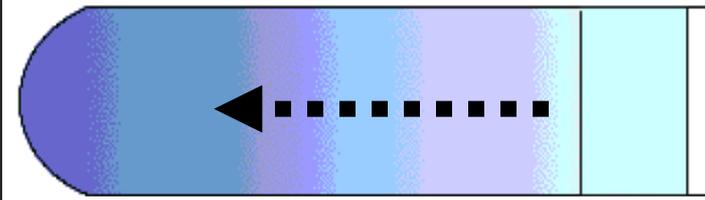
COMPOSICIÓN:

	Prot.	ARN
Procariotas:	27%	63%
Eucariotas	50%	50%

COEFICIENTE DE SEDIMENTACIÓN

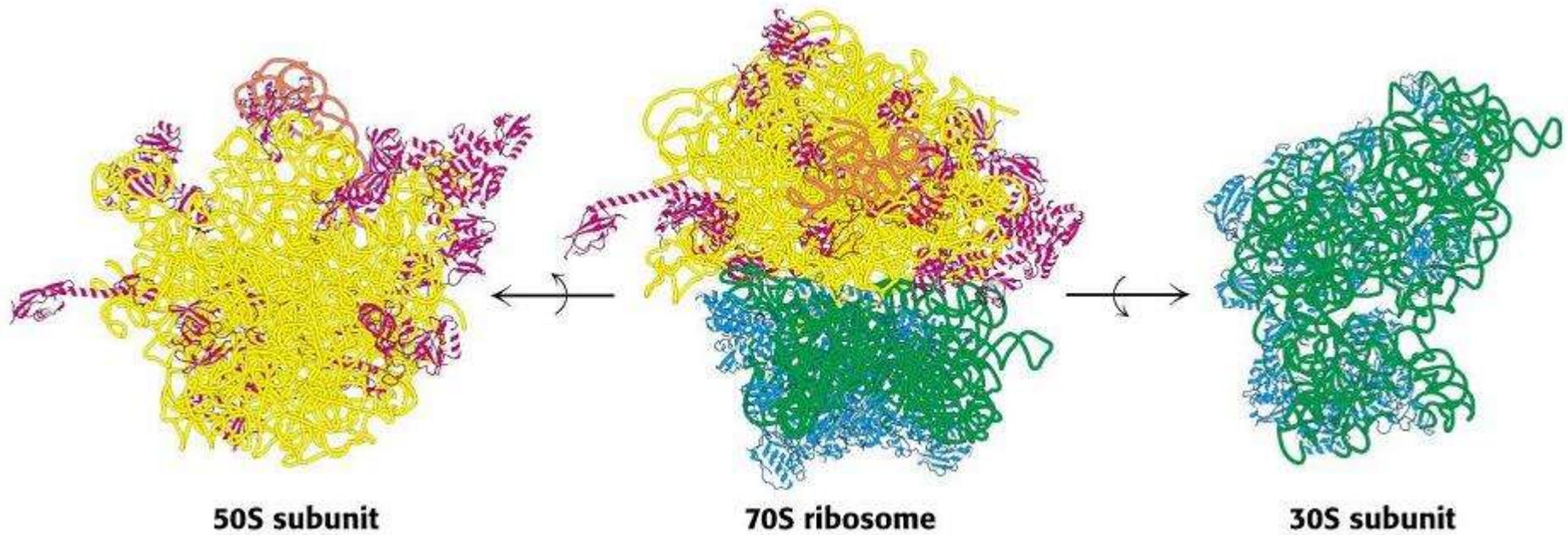
$$s = \frac{v}{c} = \frac{2/9 r^2 \rho (d - d_0)}{\eta}$$

(S de Svedberg)



La fórmula relaciona el *coeficiente de sedimentación*, **s**, con el radio de la molécula **r** (o partícula, en general), su densidad **d**, y la densidad **d₀** y viscosidad **η** del medio.

(b)

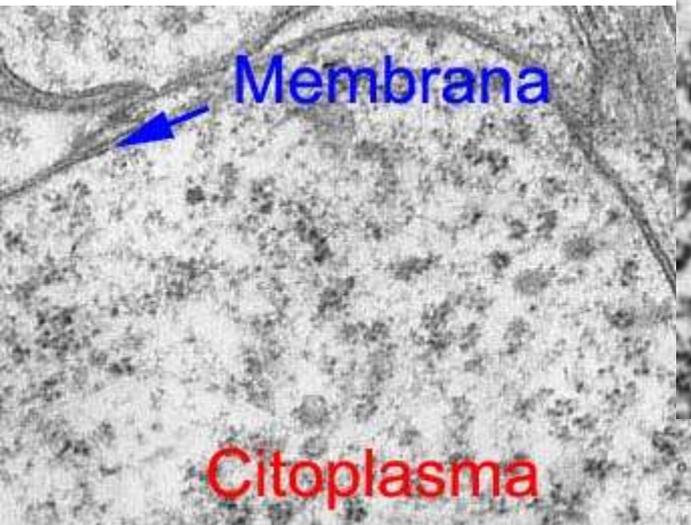


RIBOSOMAS BACTERIANOS

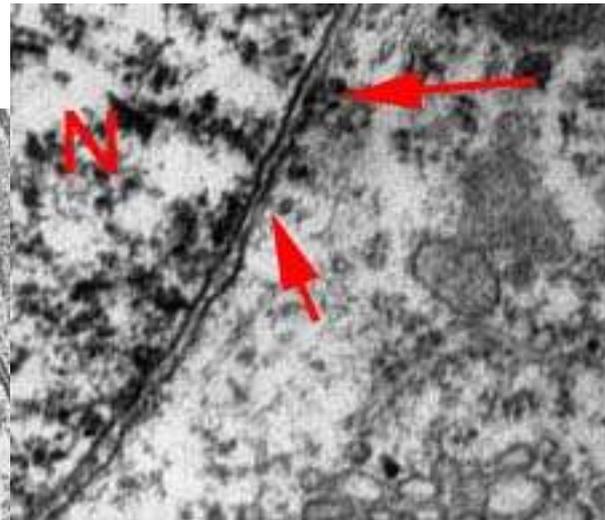
En la célula eucariota, las subunidades de los ribosomas se sintetizan en el **nucleolo**.

Luego atraviesan los poros nucleares y **son funcionales solo en el citoplasma**.

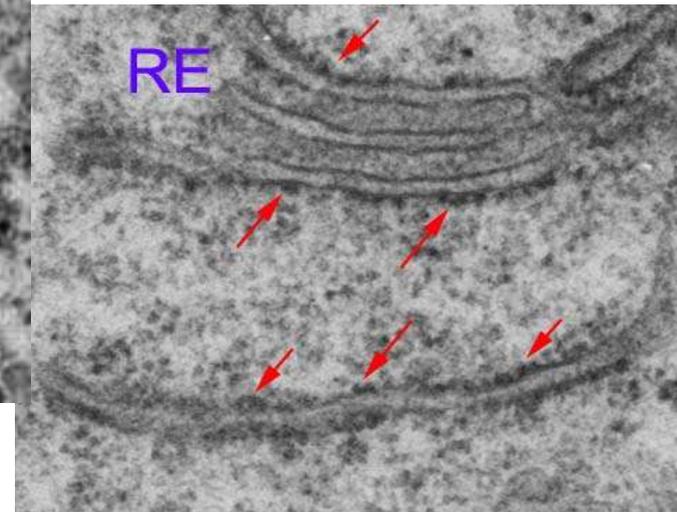
Pueden aparecer:



en el **citoplasma**

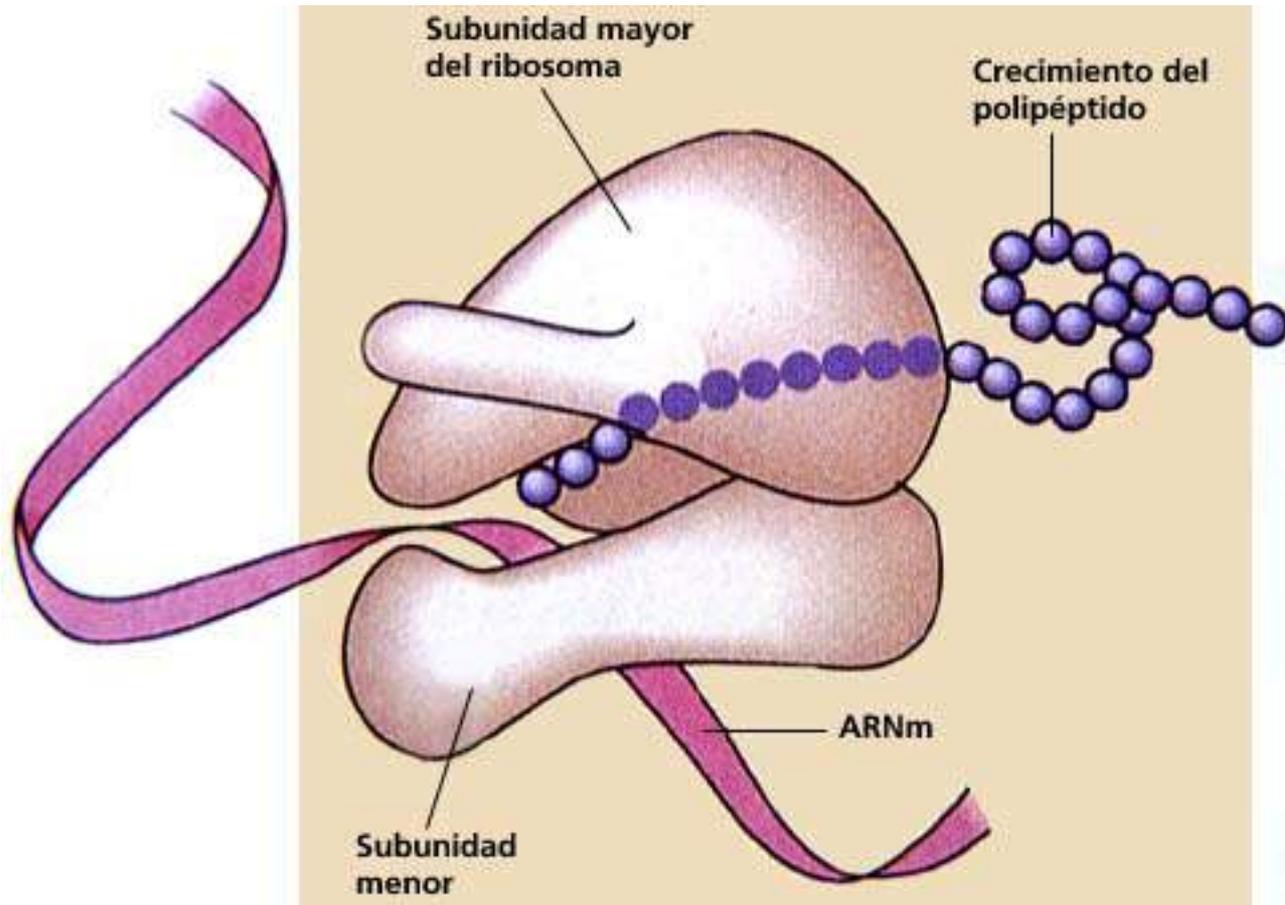


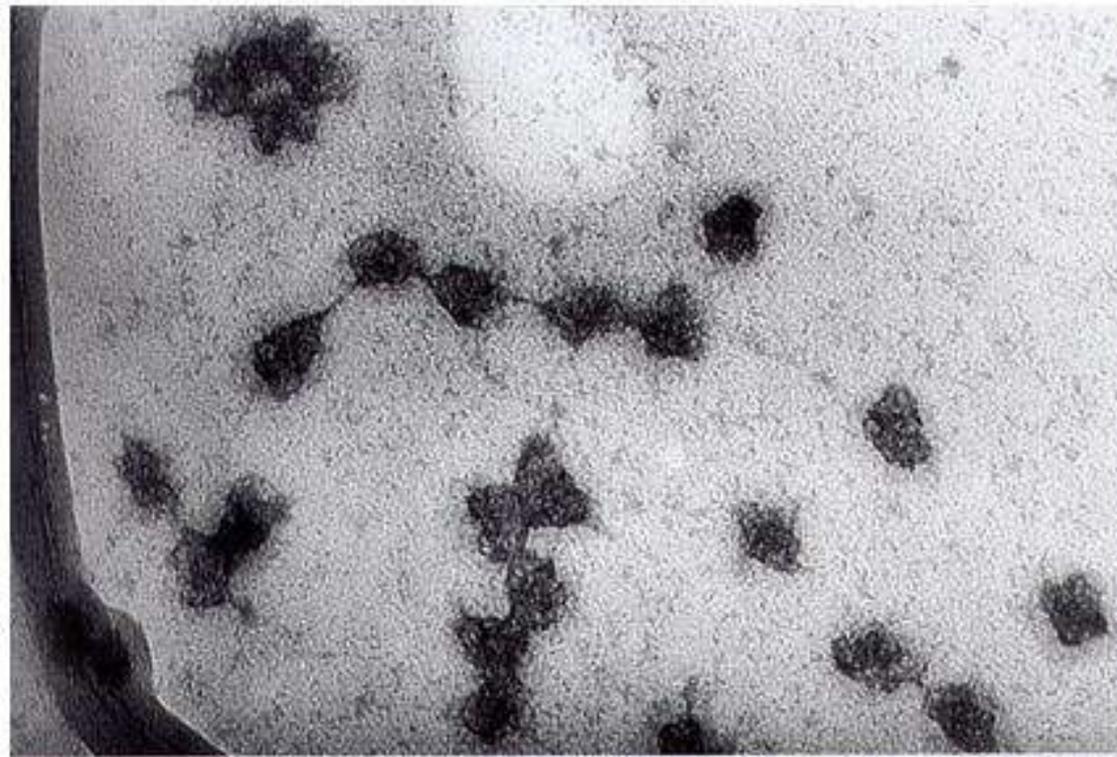
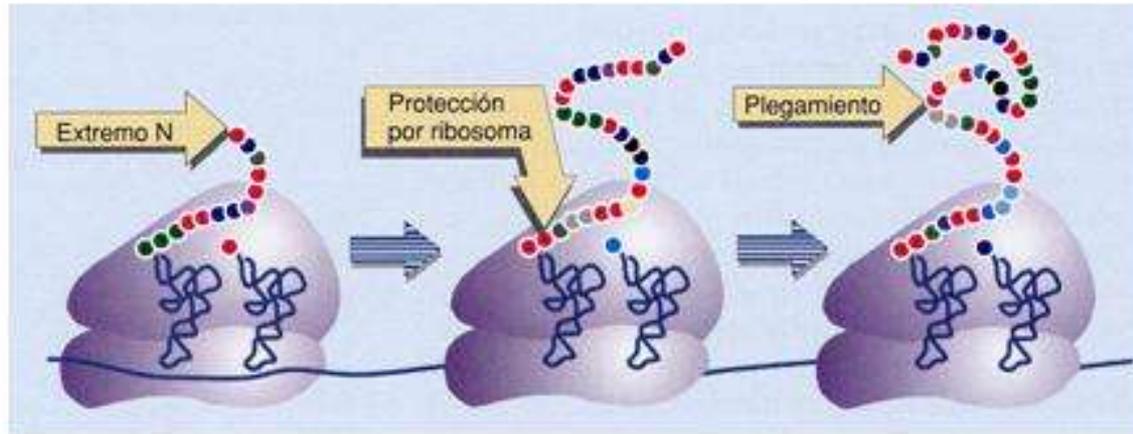
unidos a **membranas del núcleo**



unidos a **membranas del Retículo (RE rugoso)**

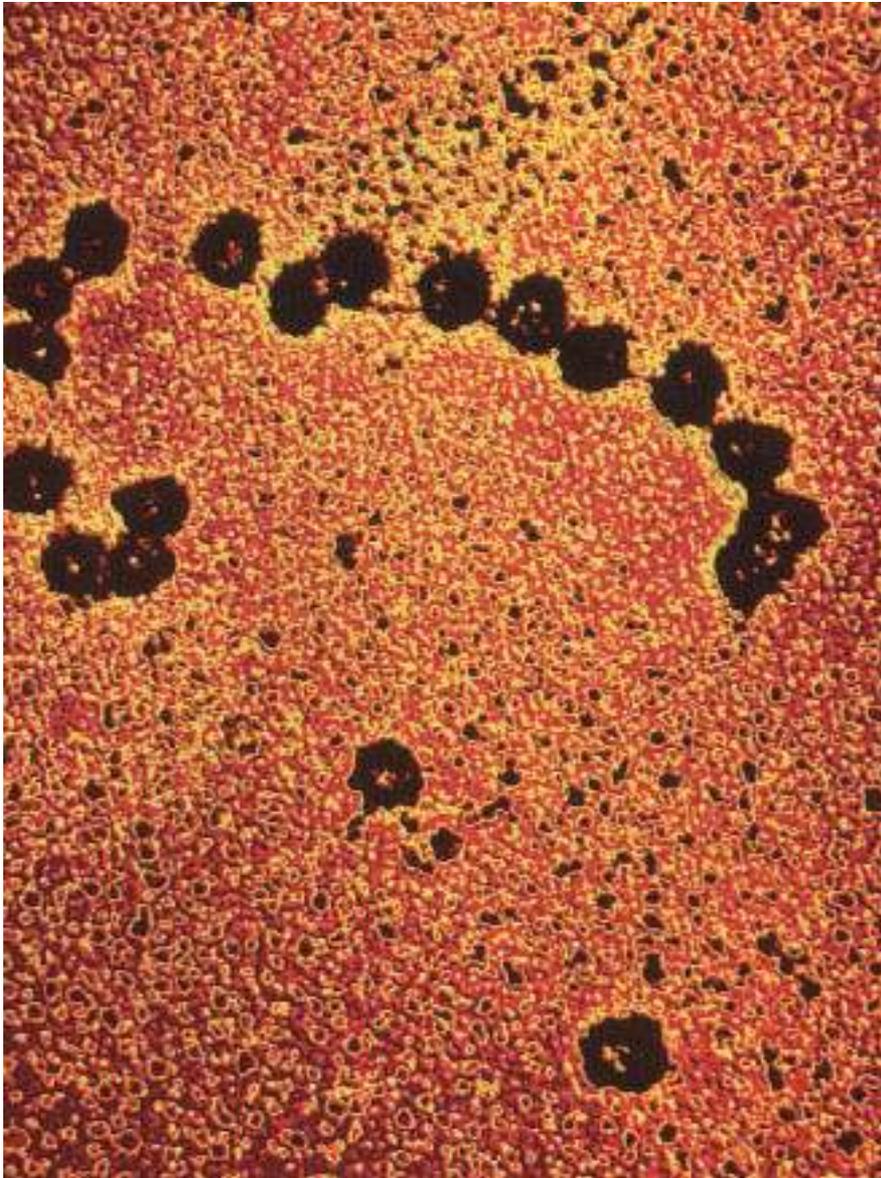
SÍNTESIS DE PROTEÍNAS



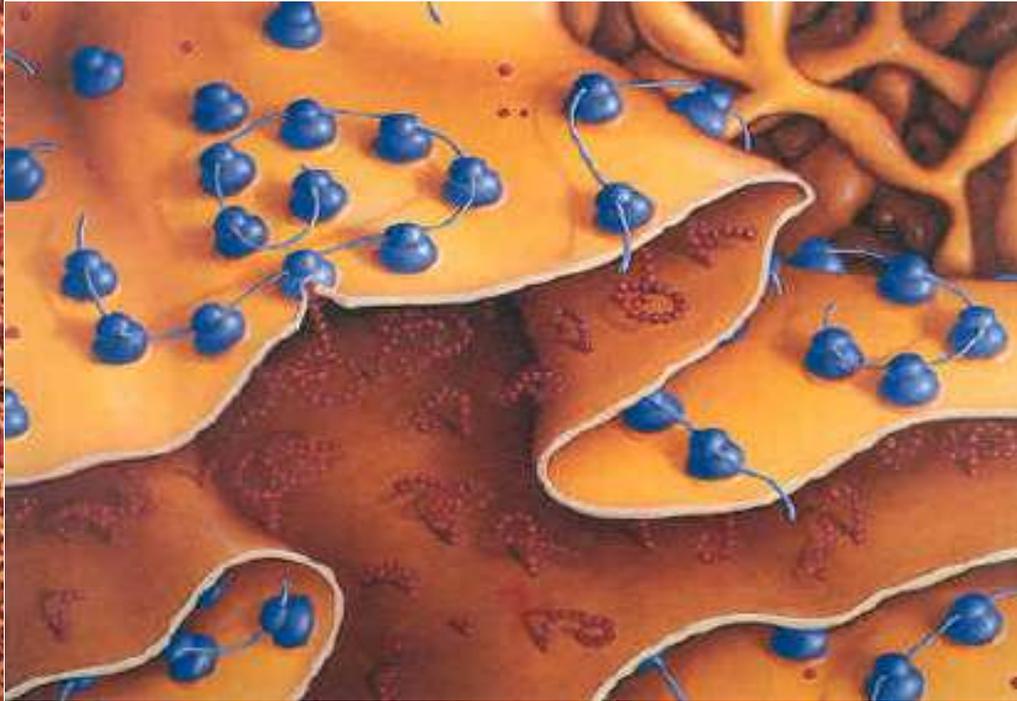


**CADENAS DE
RIBOSOMAS
SINTETIZANDO
PROTEÍNAS Y
UNIDOS POR UN
ARN-m:**

POLISOMAS



M.E.



Dibujo en REr)

POLISOMAS O POLIRRIBOSOMAS

DOGMA CENTRAL DE BIOLOGIA MOLECULAR

