



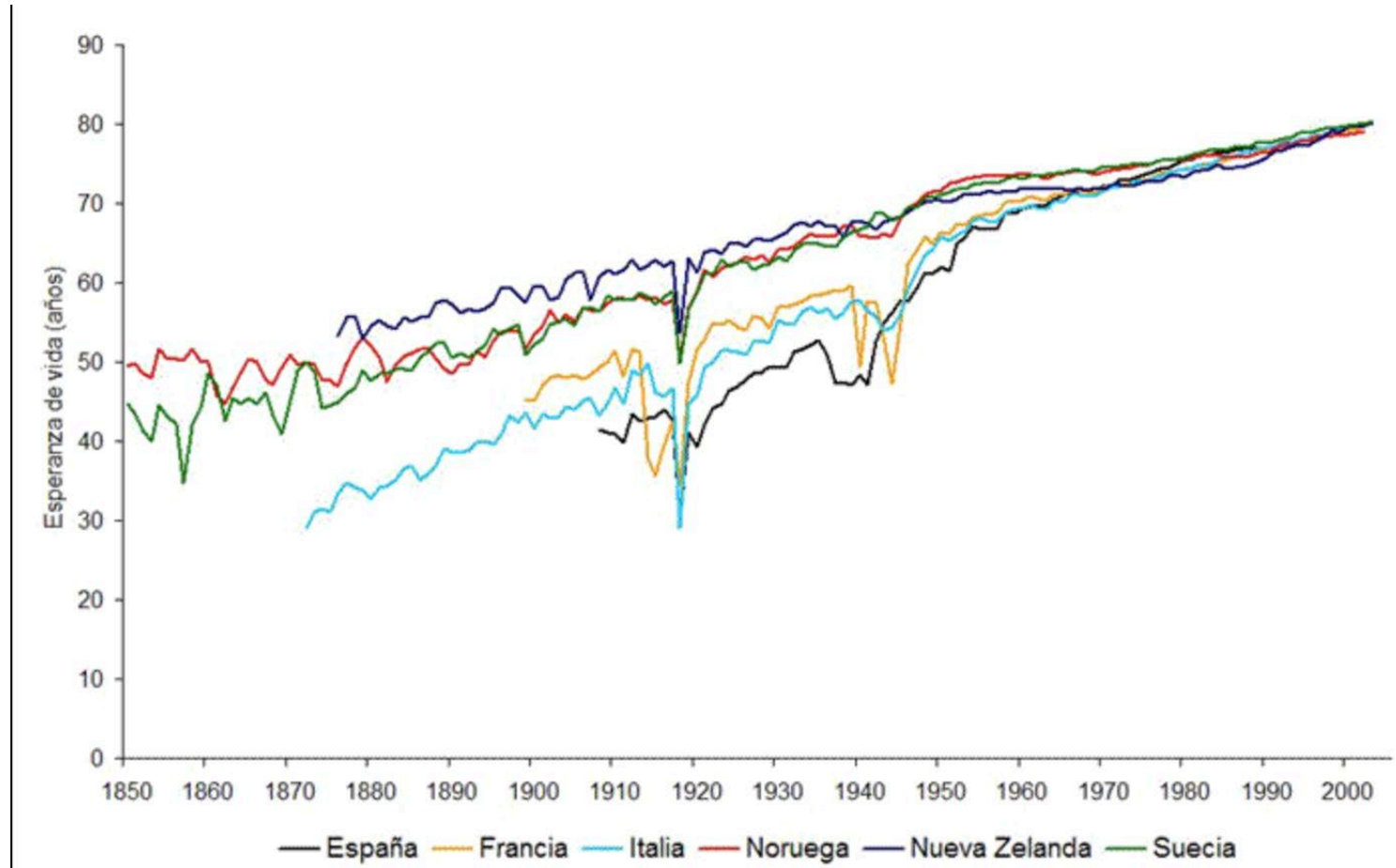
El abuelo
de
Atapuerca



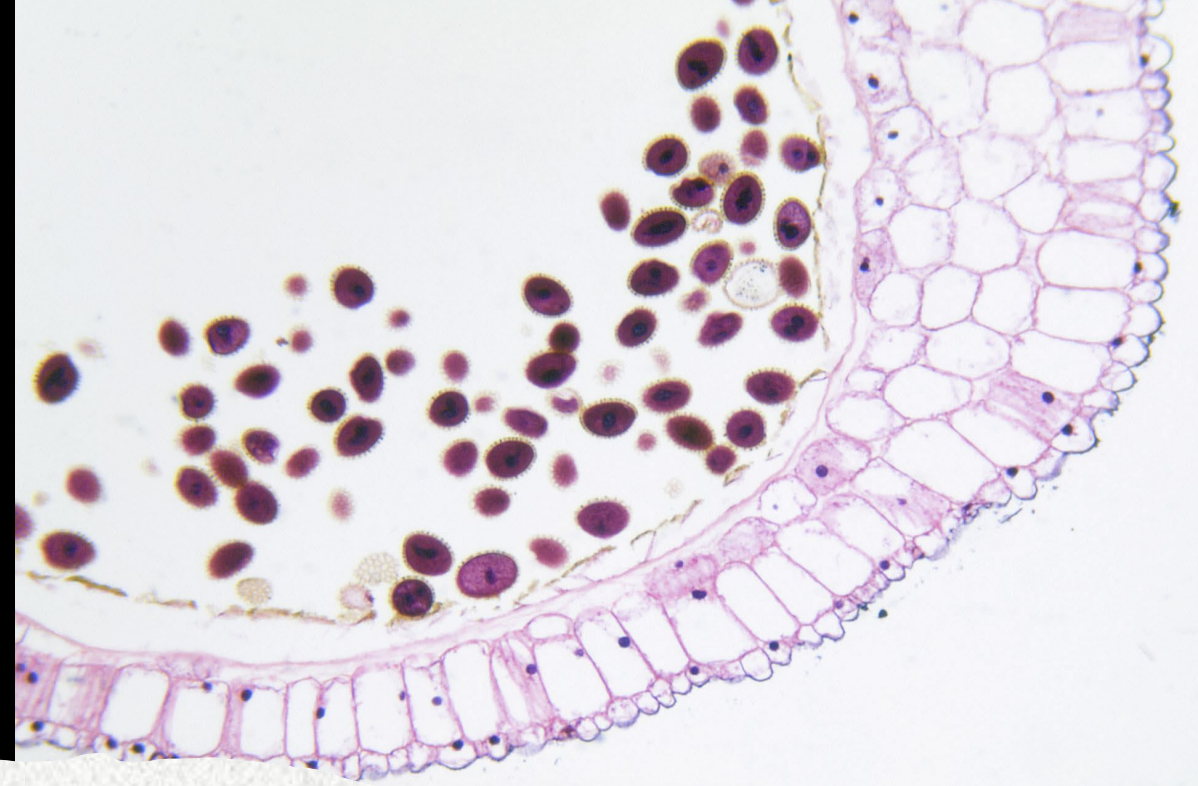
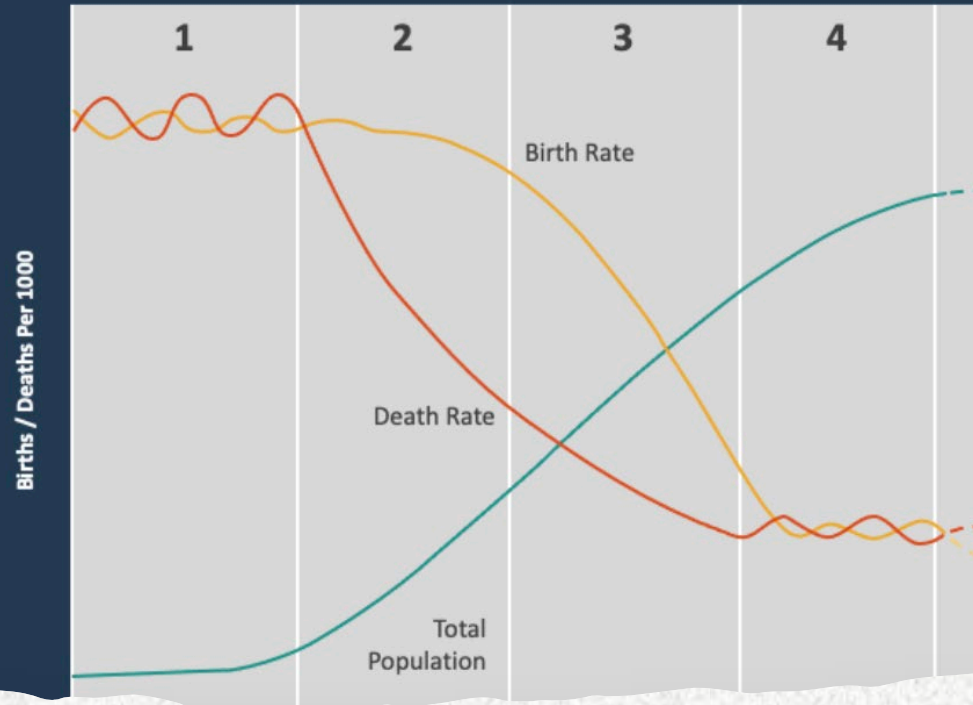
La aventura de la ciencia en pos de la longevidad

- Jorge Alcalde
- Marzo 2026

SER VIEJO ES UNA NOVEDAD



EPIDEMIOLOGICAL TRANSITION



LA TRANSICIÓN EPIDEMIOLÓGICA

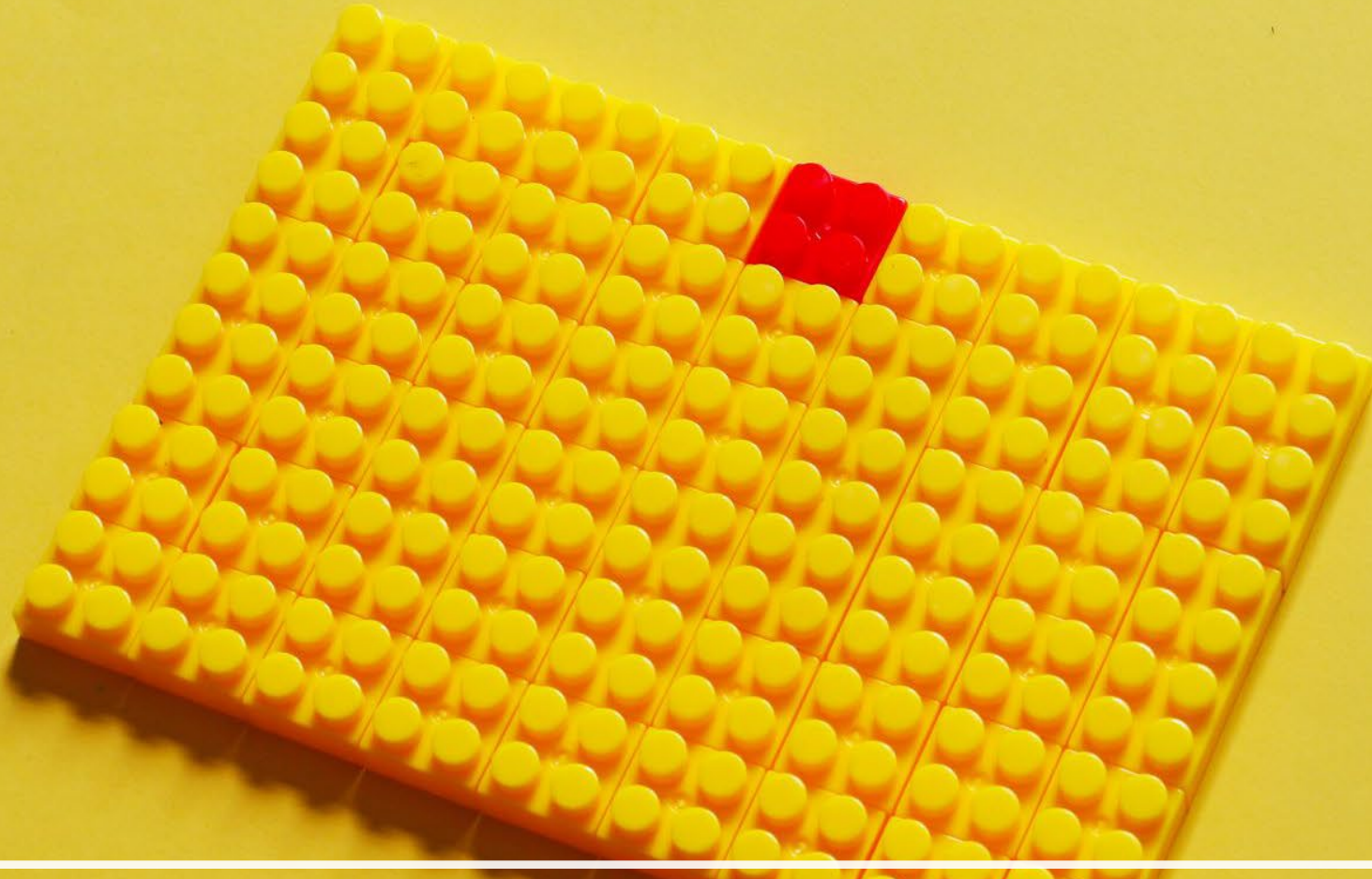
1. LA ERA DE LAS PESTES Y EL HAMBRE
2. LA ERA DE LAS PANDEMIAS RECESIVAS
3. LA ERA DE LAS ENFERMEDADES CREADAS POR EL HOMBRE
4. LA DE LAS ENFERMEDADES RETRASADAS POR EL HOMBRE



GARANTÍA BIOLÓGICA



LA REVOLUCIÓN DE LA GEROCIENCIA



LA RATA TOPO Y LA PIEZA DE LEGO



HERENCIA DE CENTENARIOS

Review > Cell. 2023 Jan 19;186(2):243-278. doi: 10.1016/j.cell.2022.11.001.

Epub 2023 Jan 3.

Hallmarks of aging: An expanding universe

Carlos López-Otín¹, María A Blasco², Linda Partridge³, Manuel Serrano⁴,
Guido Kroemer⁵

Affiliations + expand

PMID: 36599349

DOI: 10.1016/j.cell.2022.11.001

Free article

Full text links

Cite

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Abstract

Aging is driven by hallmarks fulfilling the following three premises: (1) their age-associated manifestation, (2) the acceleration of aging by experimentally accentuating them, and (3) the opportunity to decelerate, stop, or reverse aging by therapeutic interventions on them. We propose the following twelve hallmarks of aging: genomic instability, telomere attrition, epigenetic alterations, loss of proteostasis, disabled macroautophagy, deregulated nutrient-

LAS SEÑALES DEL ENVEJECIMIENTO

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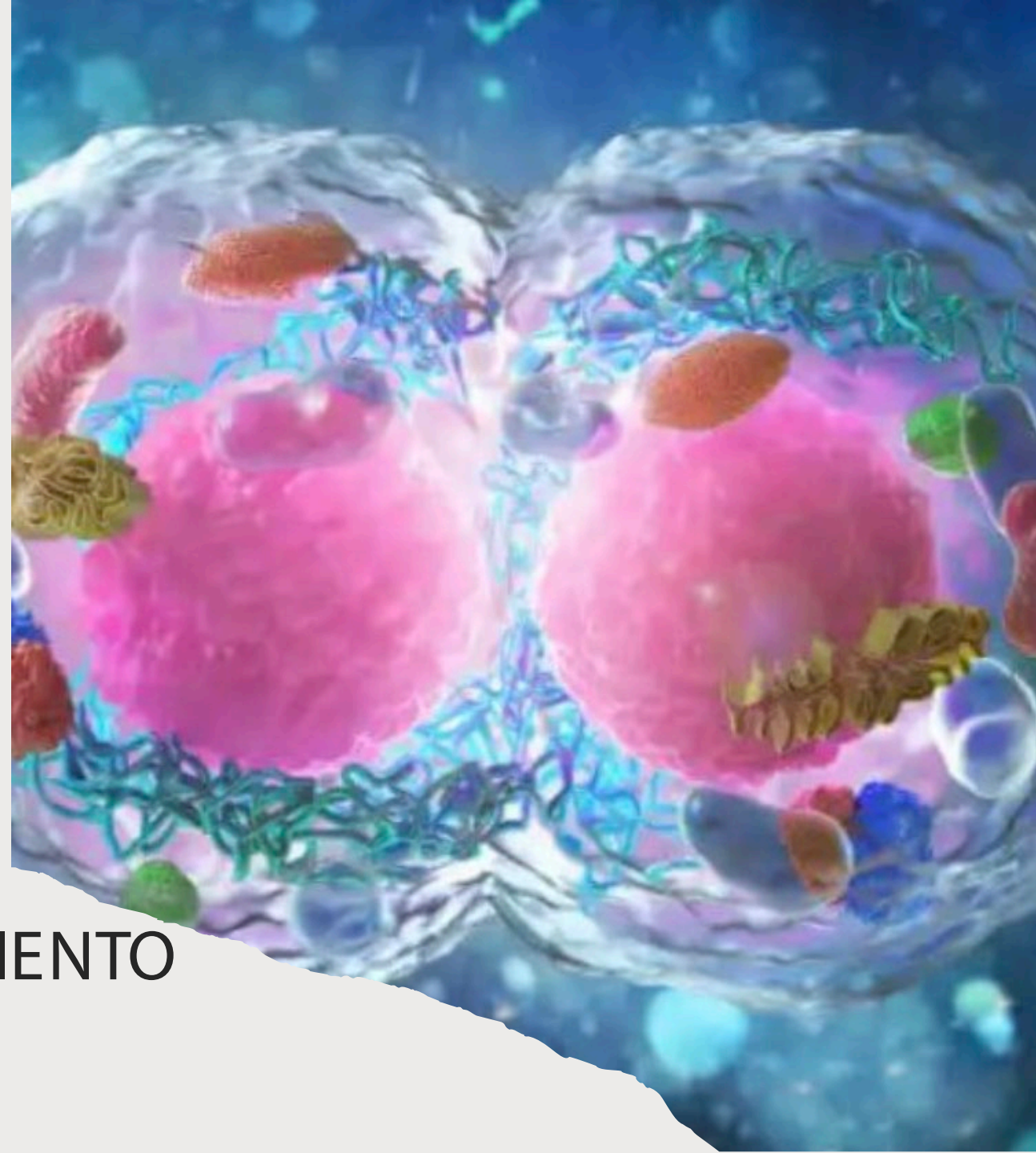
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LAS SEÑALES DEL ENVEJECIMIENTO

1. INESTABILIDAD GENÓMICA

LAS SEÑALES DEL ENVEJECIMIENTO

2.ACORTAMIENTO DE LOS TELÓMEROS

Advanced User Guide

Review

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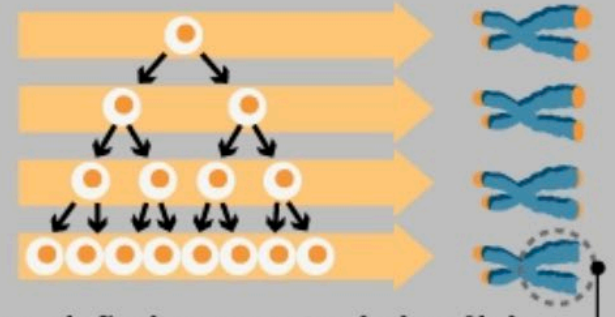


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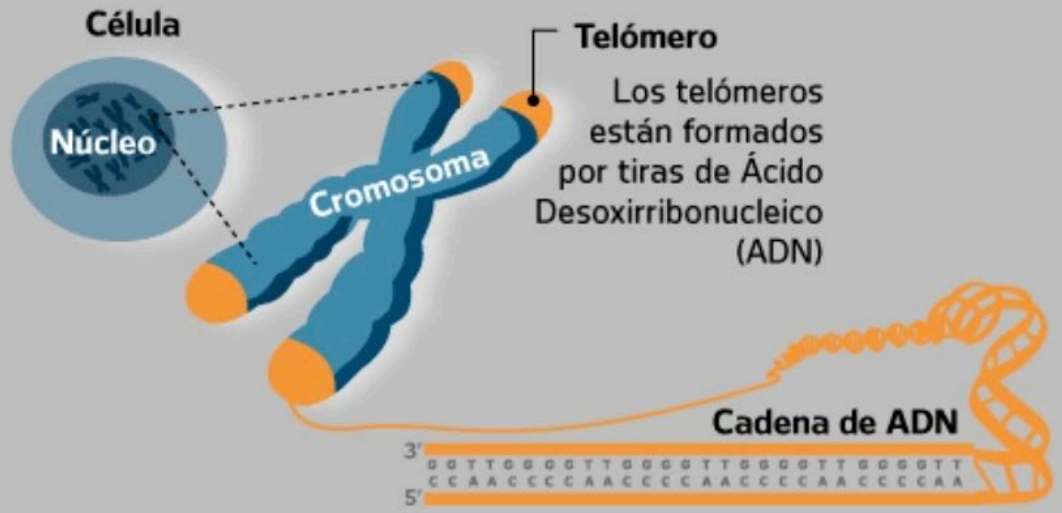
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¿Cómo se acortan los telómeros?

División celular conforme avanza el tiempo



Cromosomas dañados, muerte de la célula



LAS SEÑALES DEL ENVEJECIMIENTO

3.ALTERACIONES EPIGENÉTICAS

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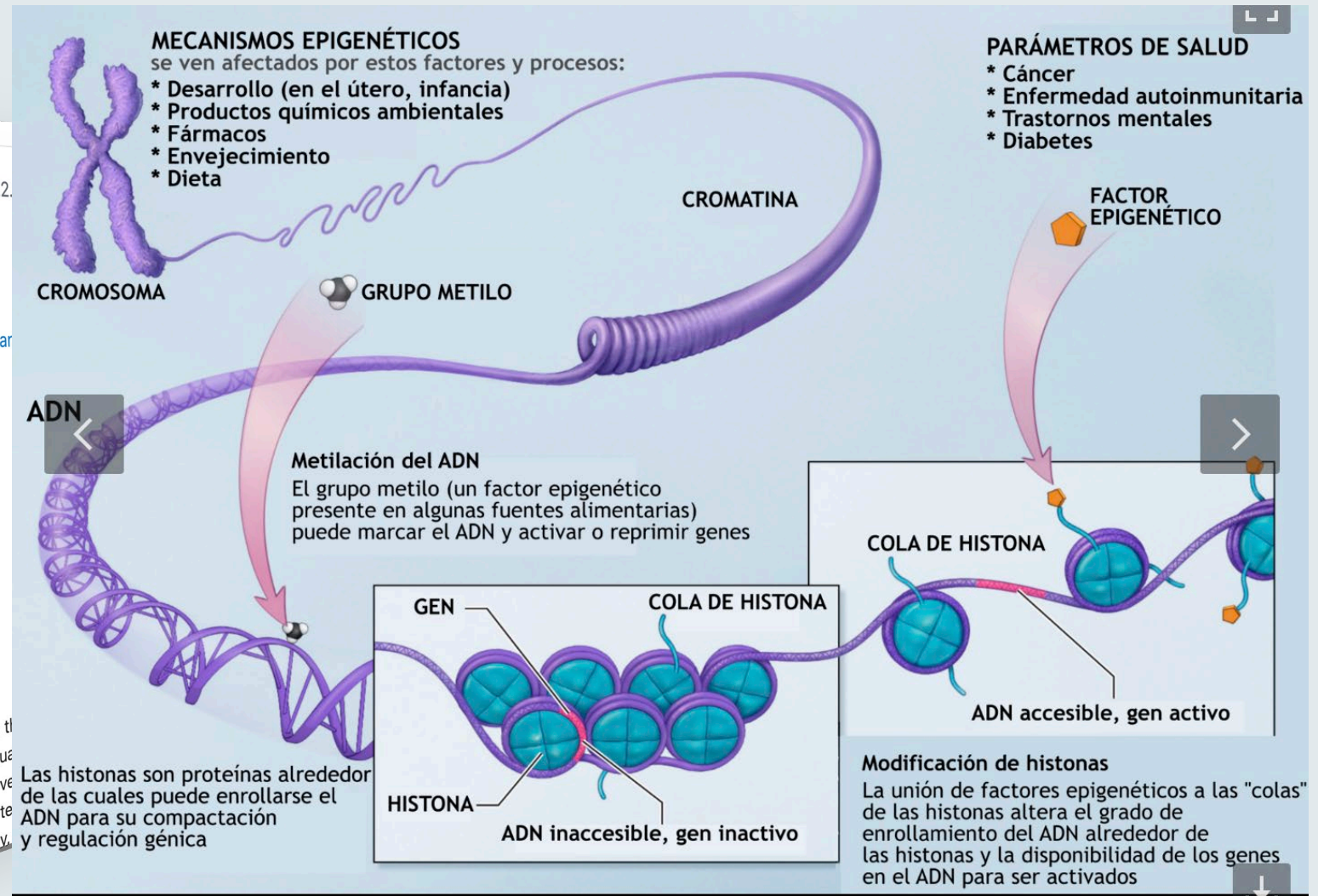
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LAS SEÑALES DEL ENVEJECIMIENTO

5. PERCEPCIÓN ALTERADA DE LOS NUTRIENTES

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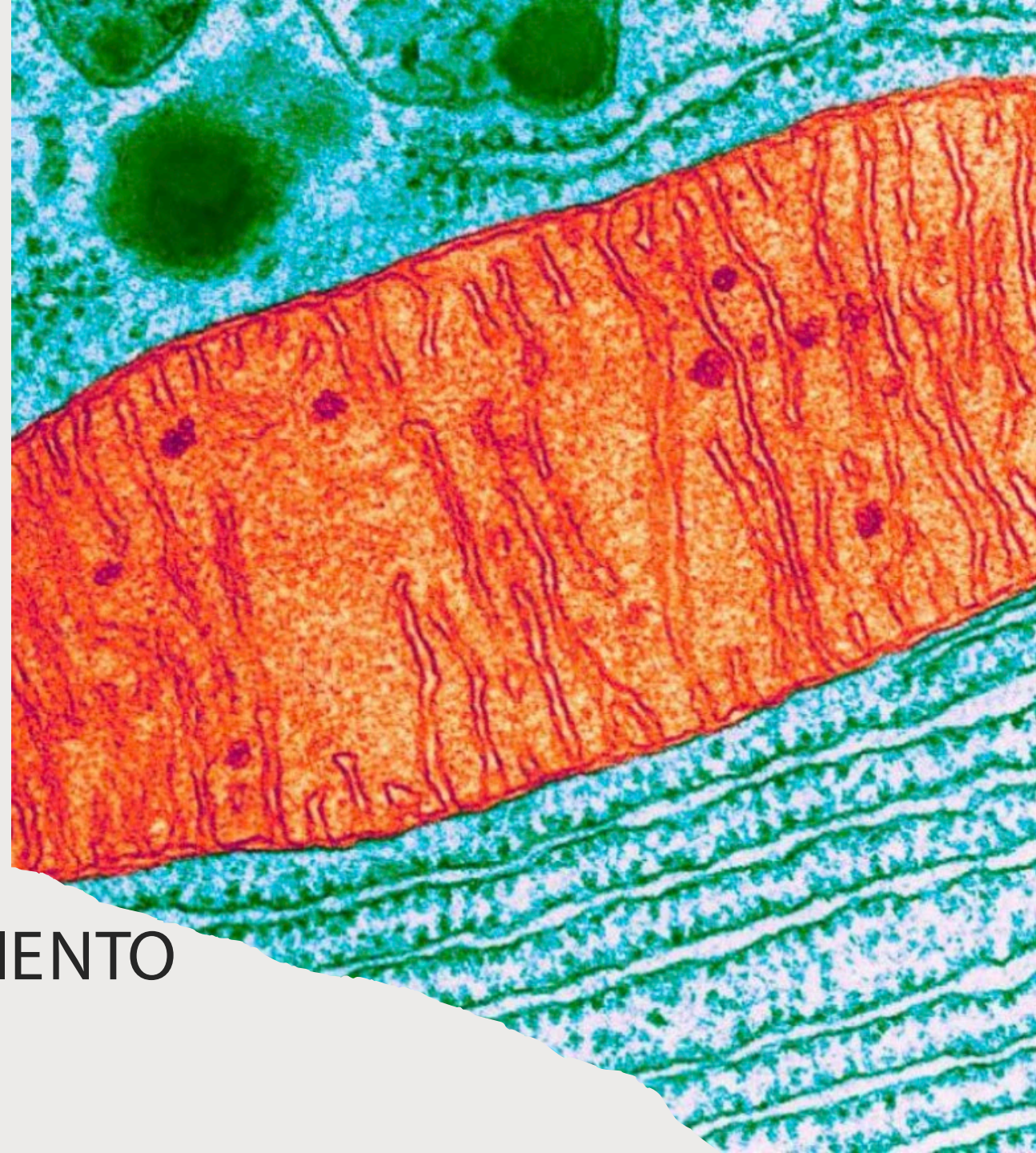
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LAS SEÑALES DEL ENVEJECIMIENTO

6. DISFUNCIÓN MITOCONDRIAL



LA EVA MITOCONDRIAL

LAS SEÑALES DEL ENVEJECIMIENTO

7.SENESCENCIA CELULAR

Advanced User Guide

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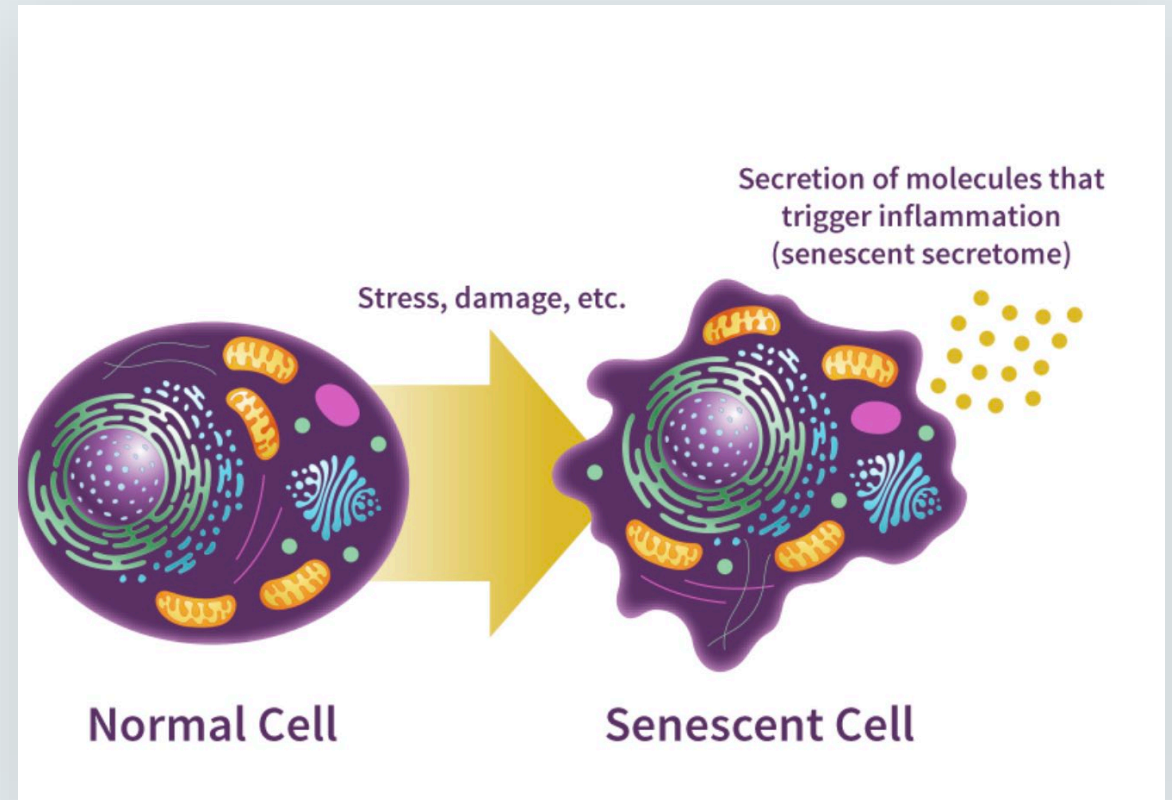
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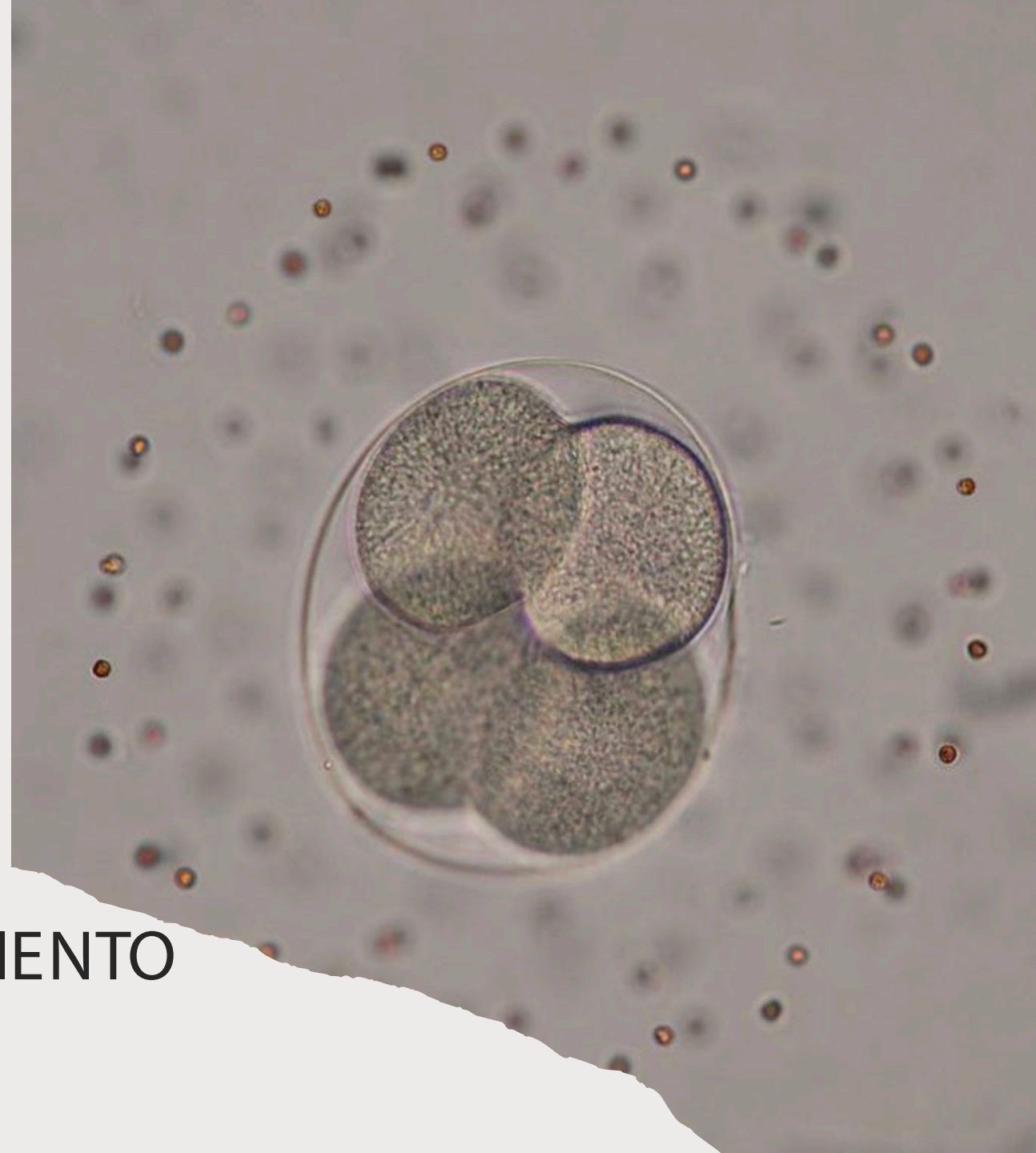
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8. AGOTAMIENTO DE LAS CÉLJULAS MADRES

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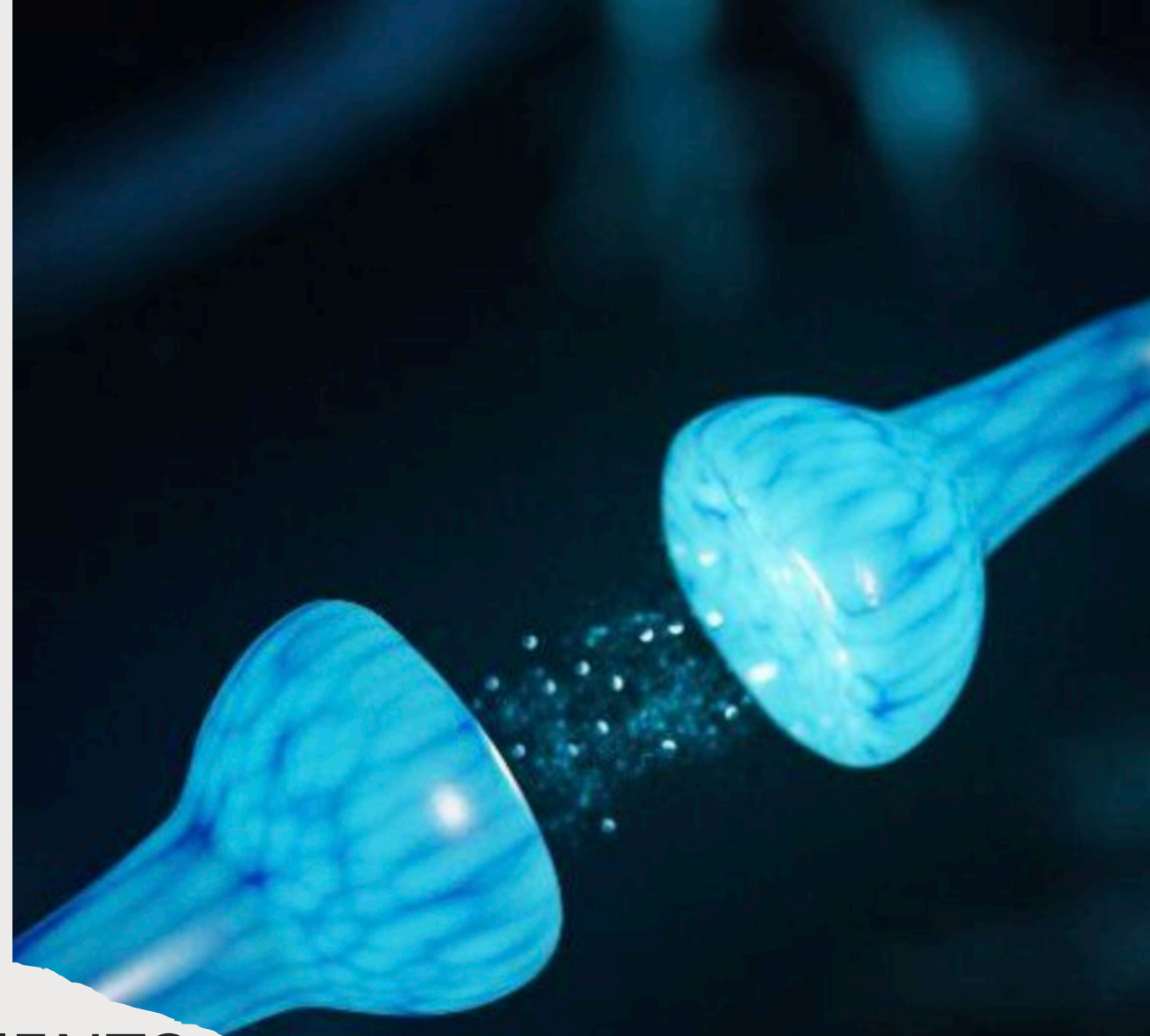
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LAS SEÑALES DEL ENVEJECIMIENTO

9.COMUNICACION CELULAR ALTERADA

INTERVENCIONES A LA LUZ DE LA CIENCIA

NO ELEGIMOS
NUESTROS GENES,
PERO SÍ COMO
ACTIVARLOS

LA LOGEVIDAD SE
ESTUDIA EN EL
LABORATORIO, SE
PRACTICA EN EL
ESTILO DE VIDA

COMEMOS
DEMASIADO,
DEMASIADO A
MENUDO Y
DEMASIADO MAL

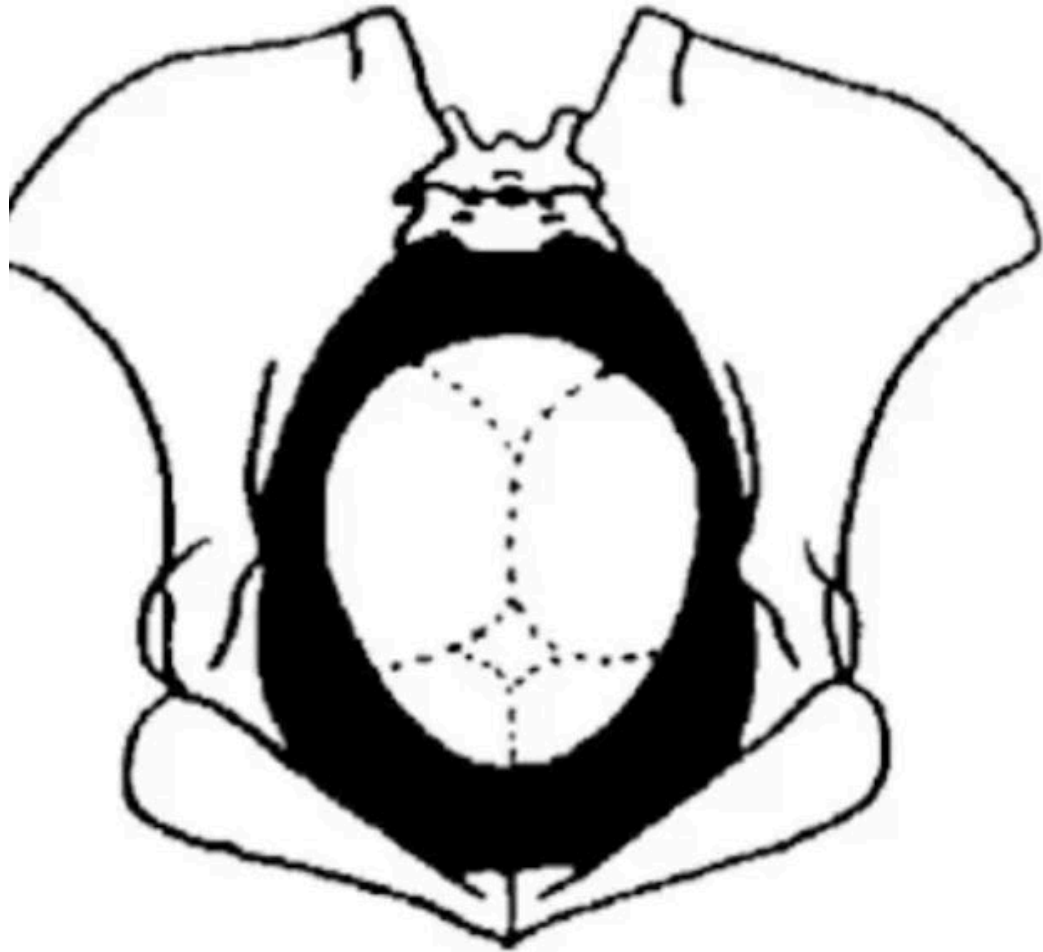
SI TUVIERA QUE
ELEGIR UNA TERAPIA...
MOVERSE. EL
MUSCULO NO ES
ESTÉTICA, ES TIEMPO

EL ESTRÉS AGUDO
NOS SALVA, EL
CRÓNICO NOS
INFLAMA

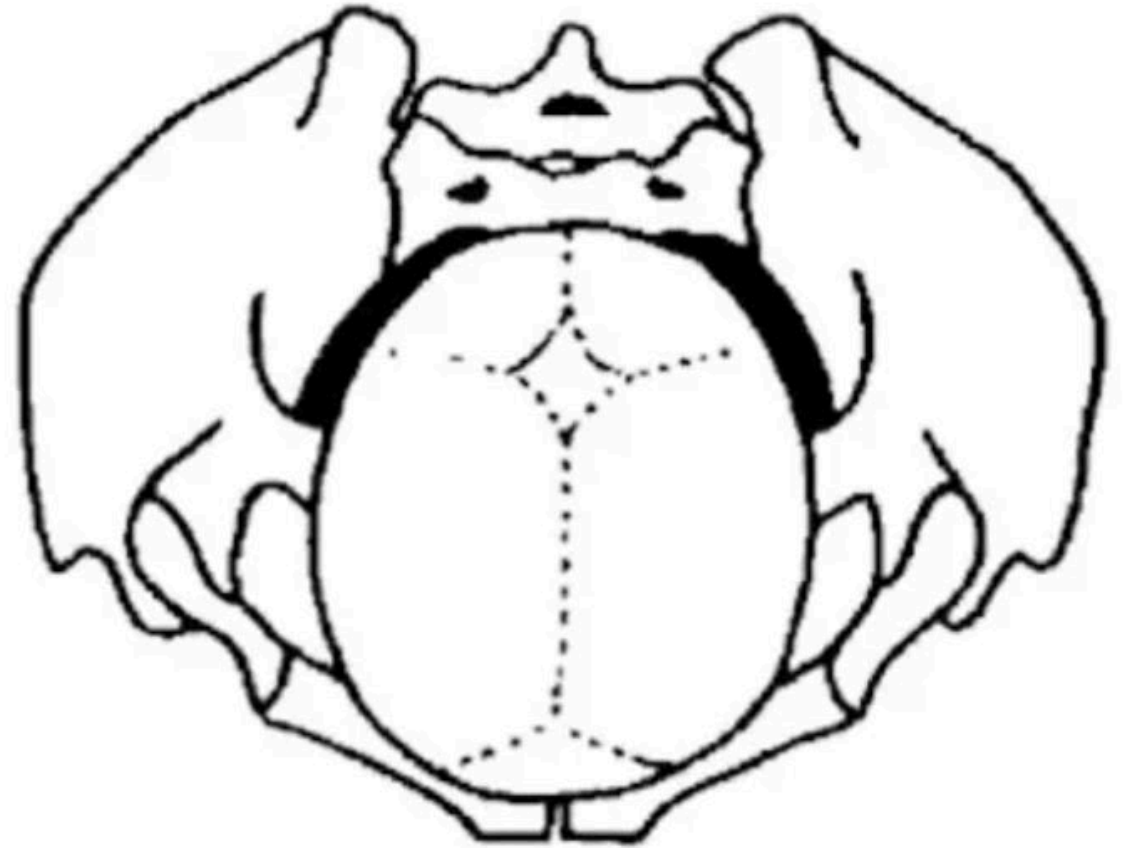
EL FACTOR SOCIAL.
VIVIR CON PROPÓSITO



LA HERENCIA DE NUESTROS ANCESTROS



Chimpanzee
Pan troglodytes



Human
Homo sapien





LA HIPÓTESIS DE LA ABUELA

GRACIAS

JORGE ALCALDE

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