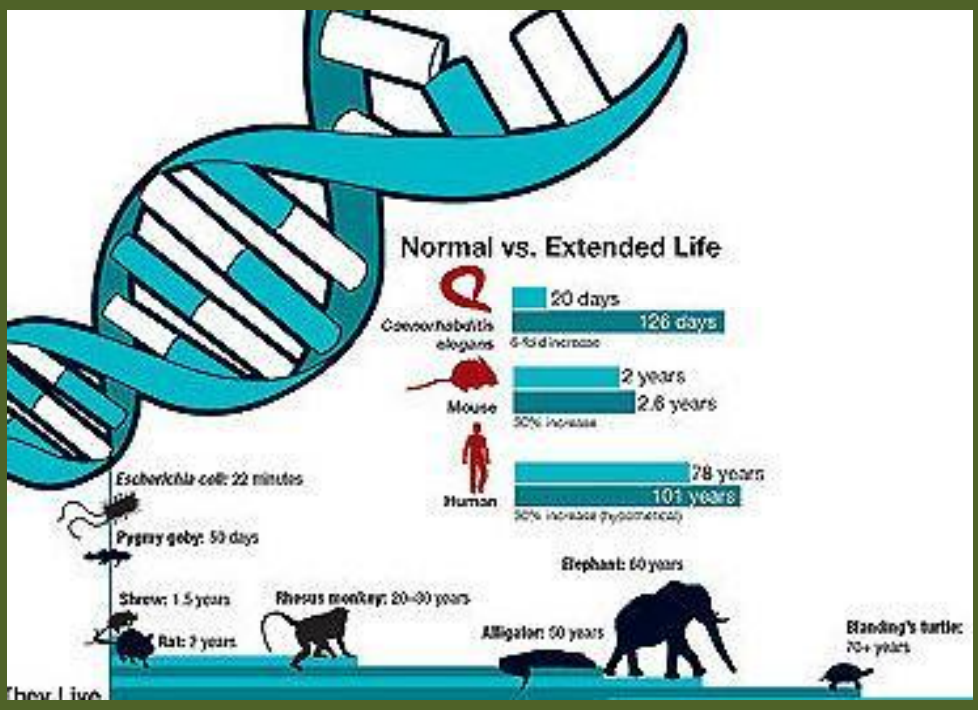
Pierre ATHIAS

Longévités Comparées



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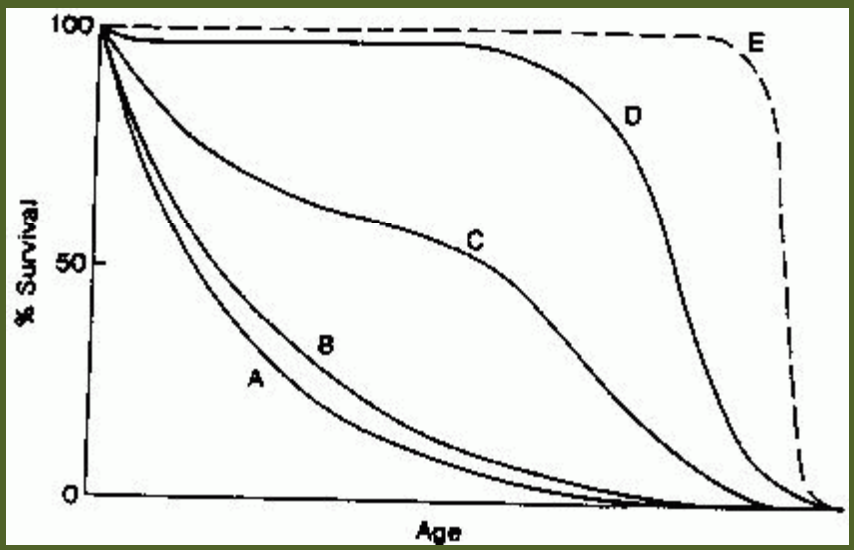
Relation Espérance de vie/Longévité



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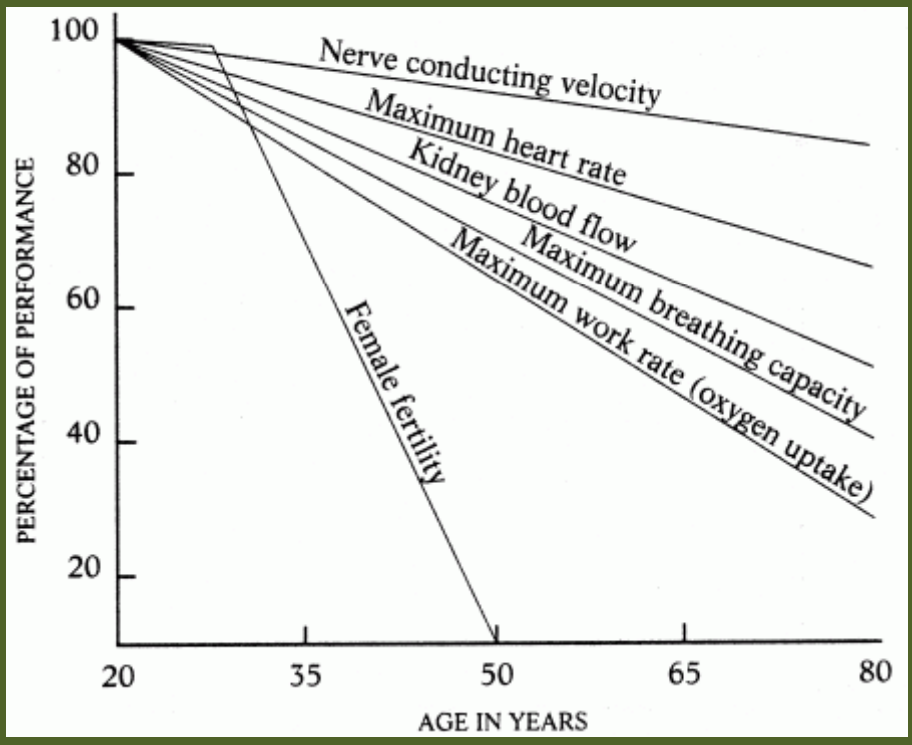
Variables Physiologiques & Vieillissement



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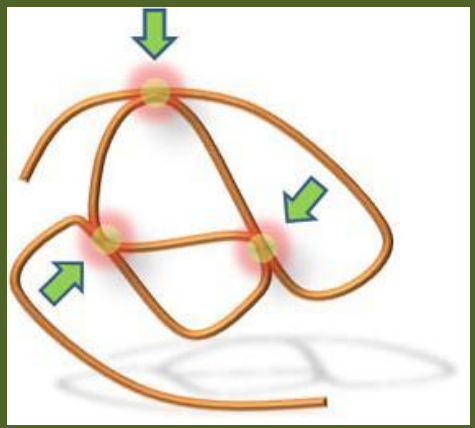
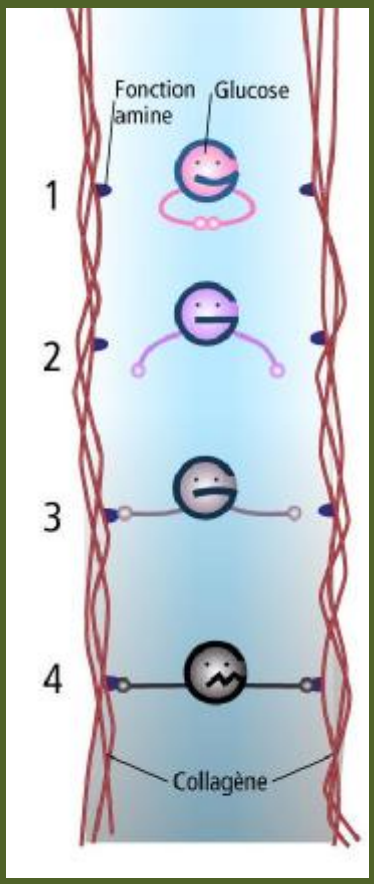
Phénomènes de Glycation





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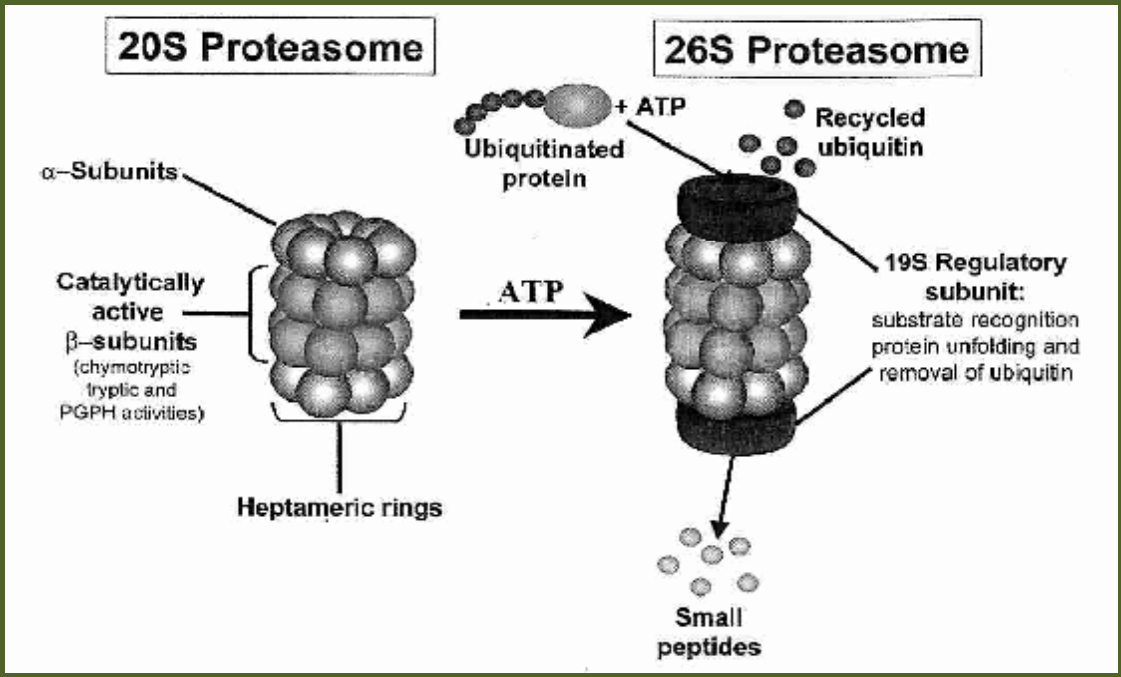
Destruction des protéines altérées



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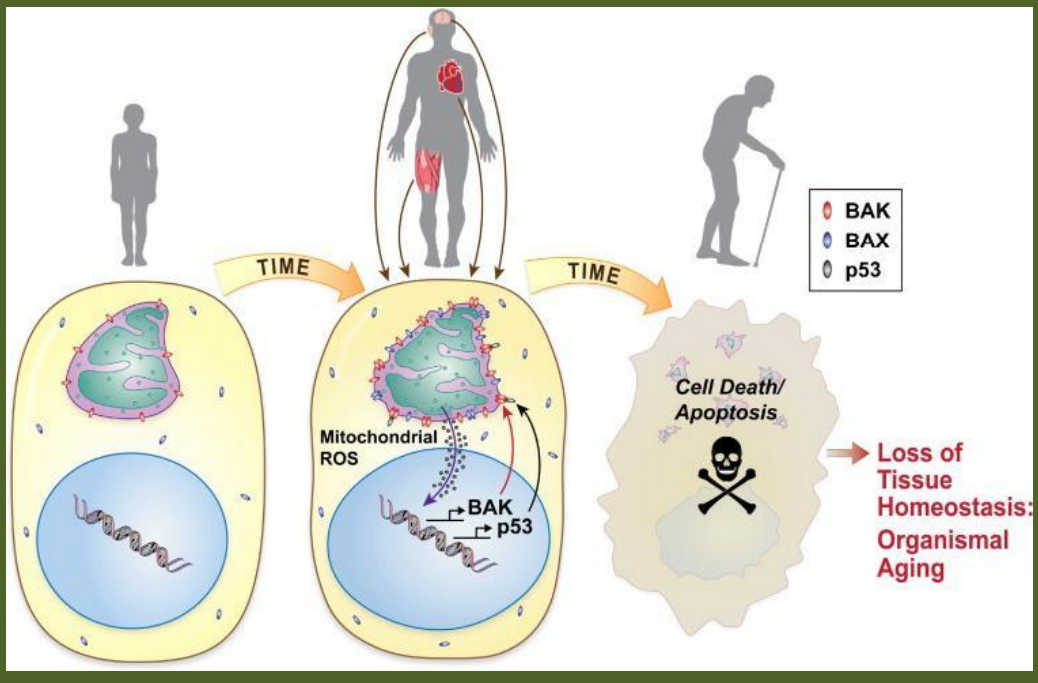
Vieillissement & Apoptose



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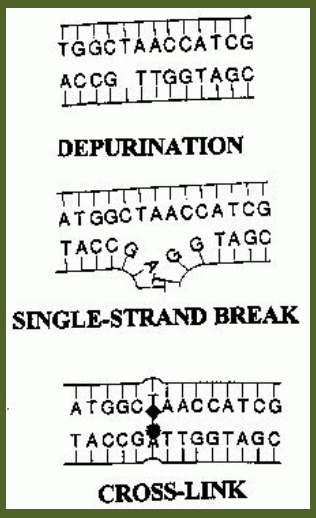
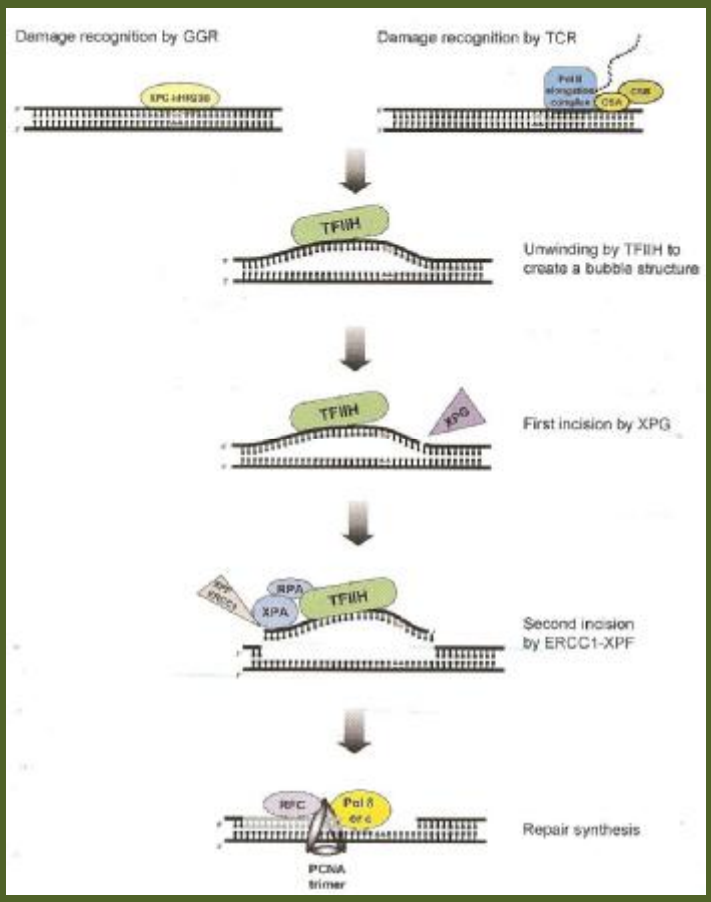
Réparation du DNA





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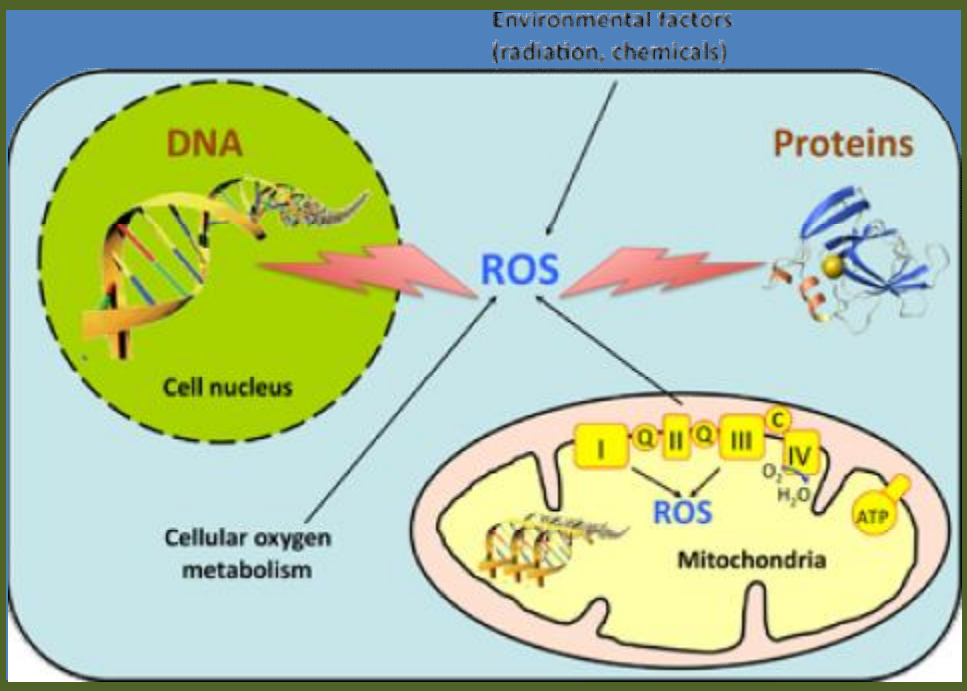
Voie des Radicaux Libres



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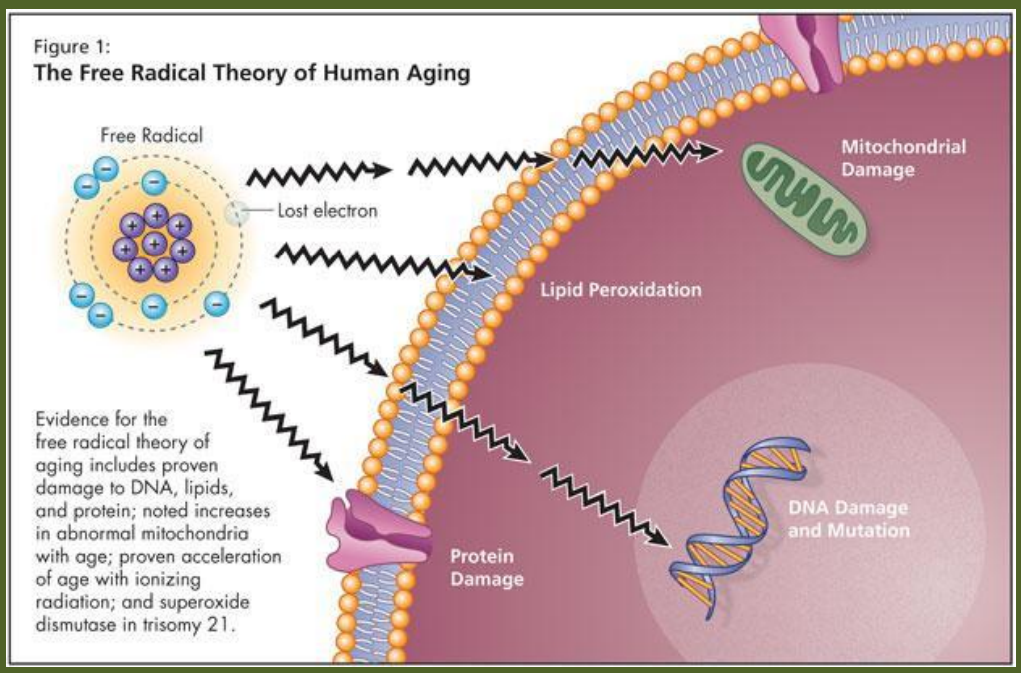
Radicaux Libres & Vieillissement



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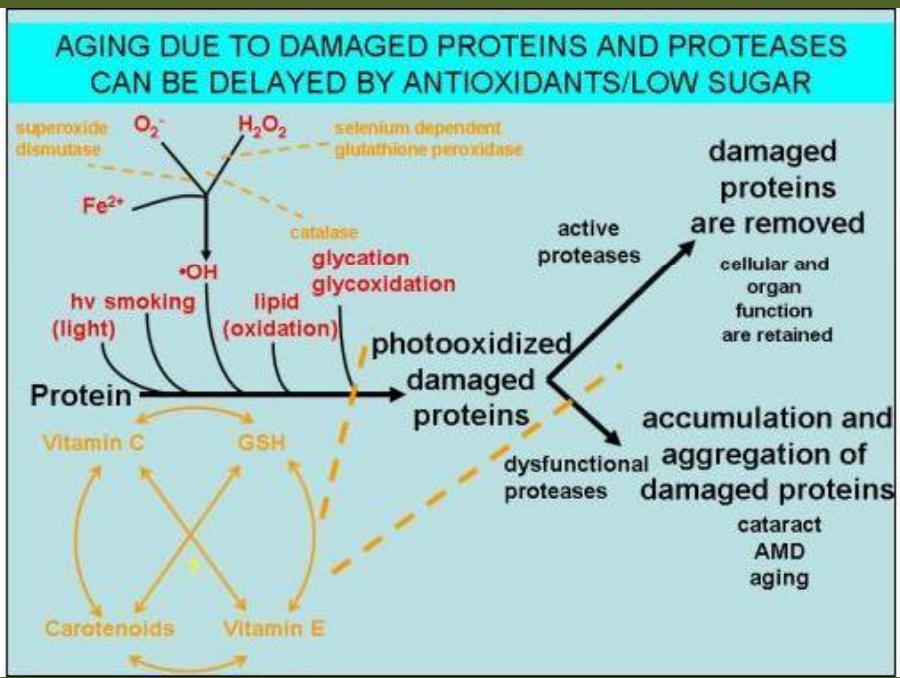
Radicaux Libres & Vieillissement



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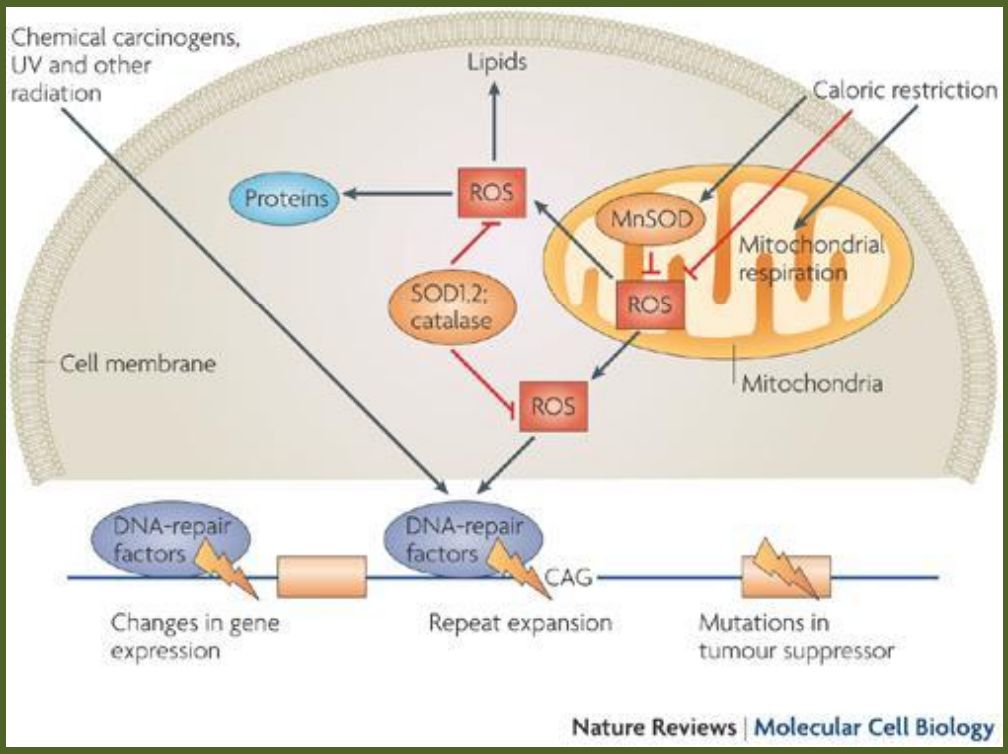

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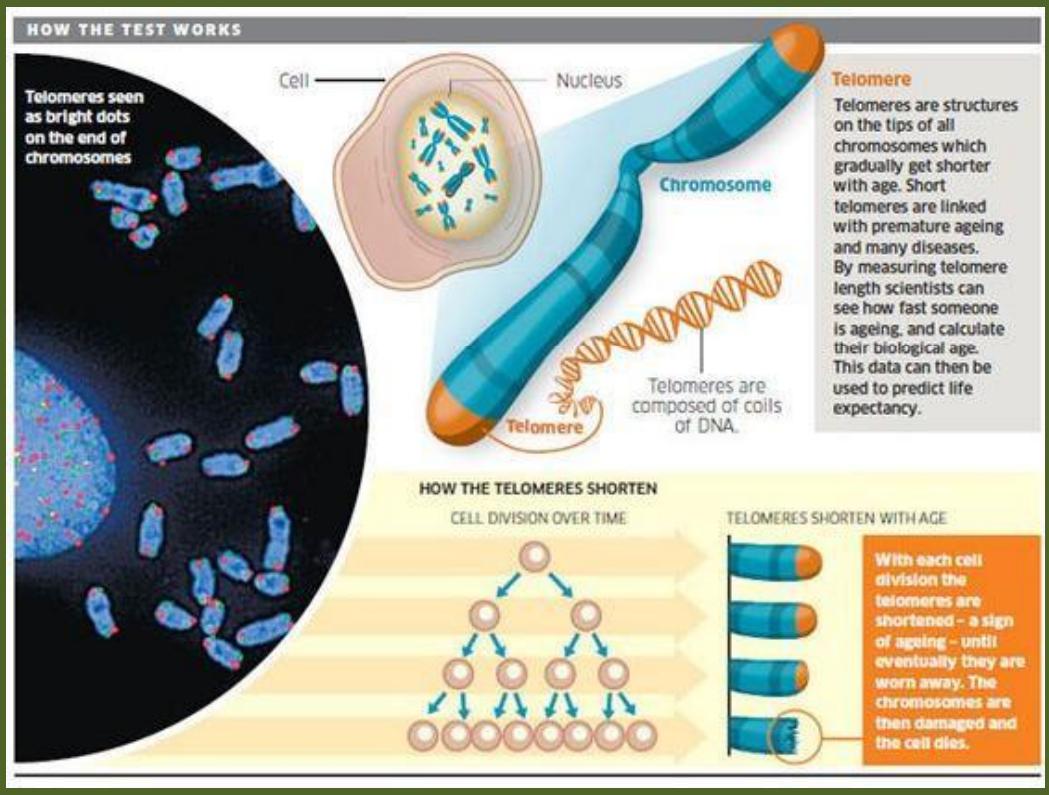
Télomères & Longévité



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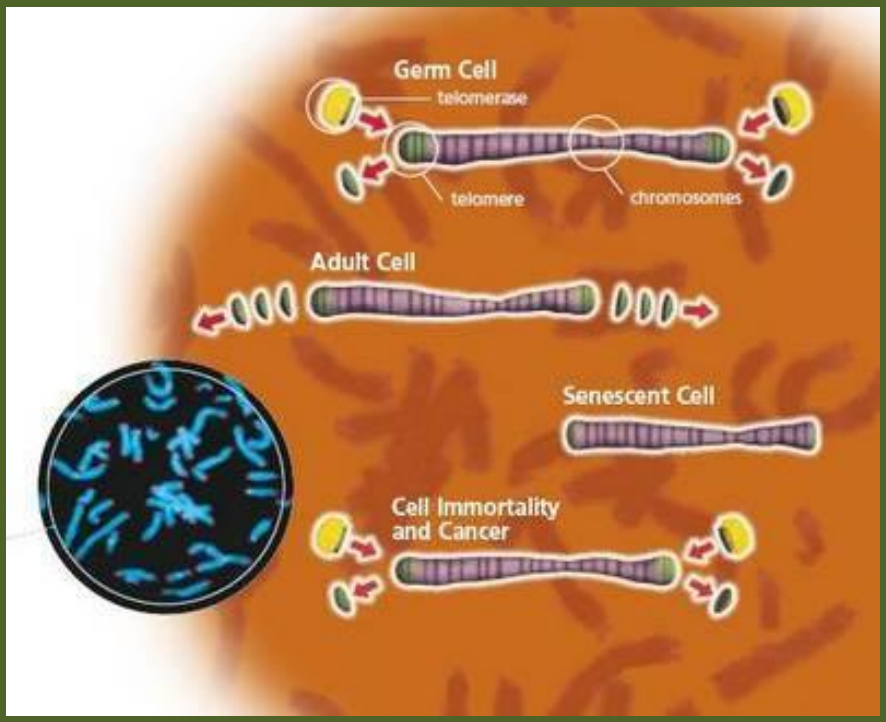

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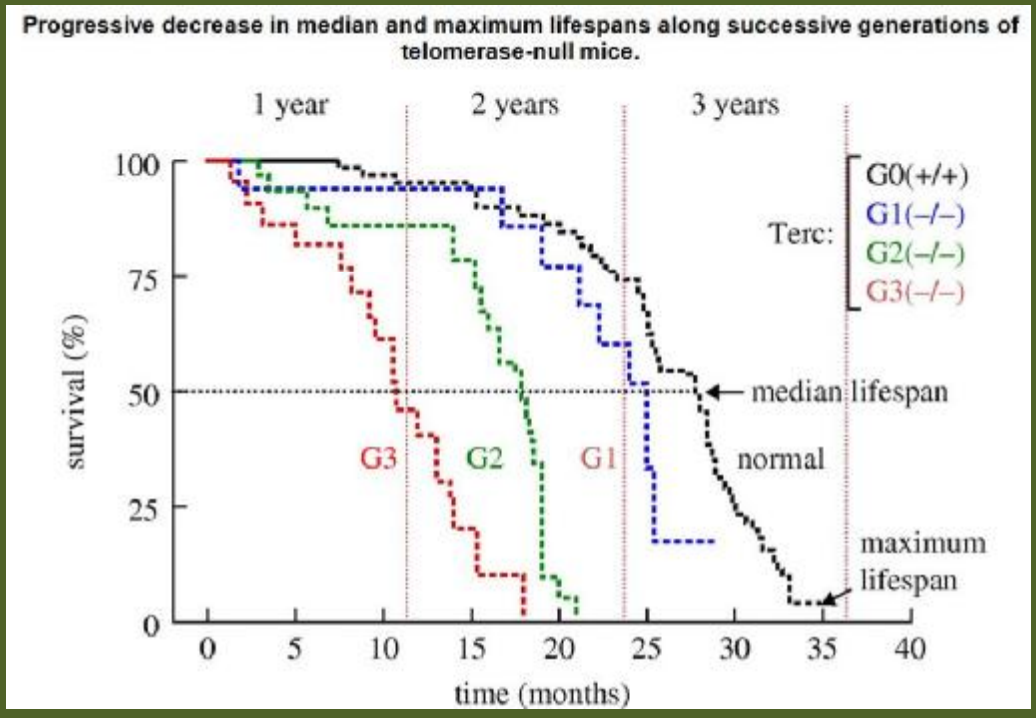
Progressive decrease in median and maximum lifespans along successive generations of telomerase-null mice.



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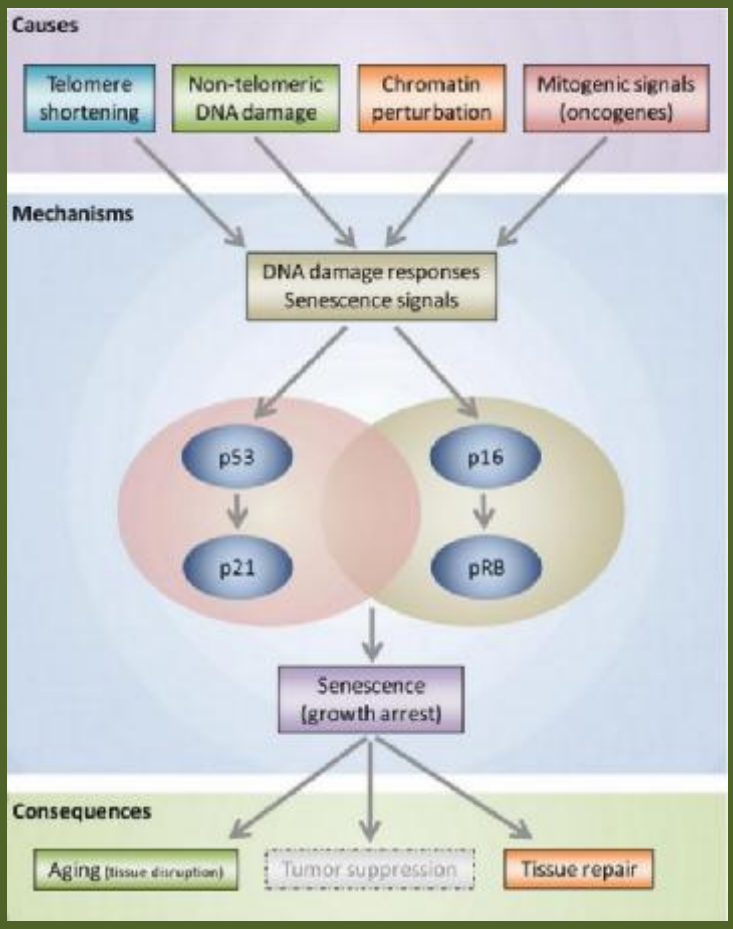

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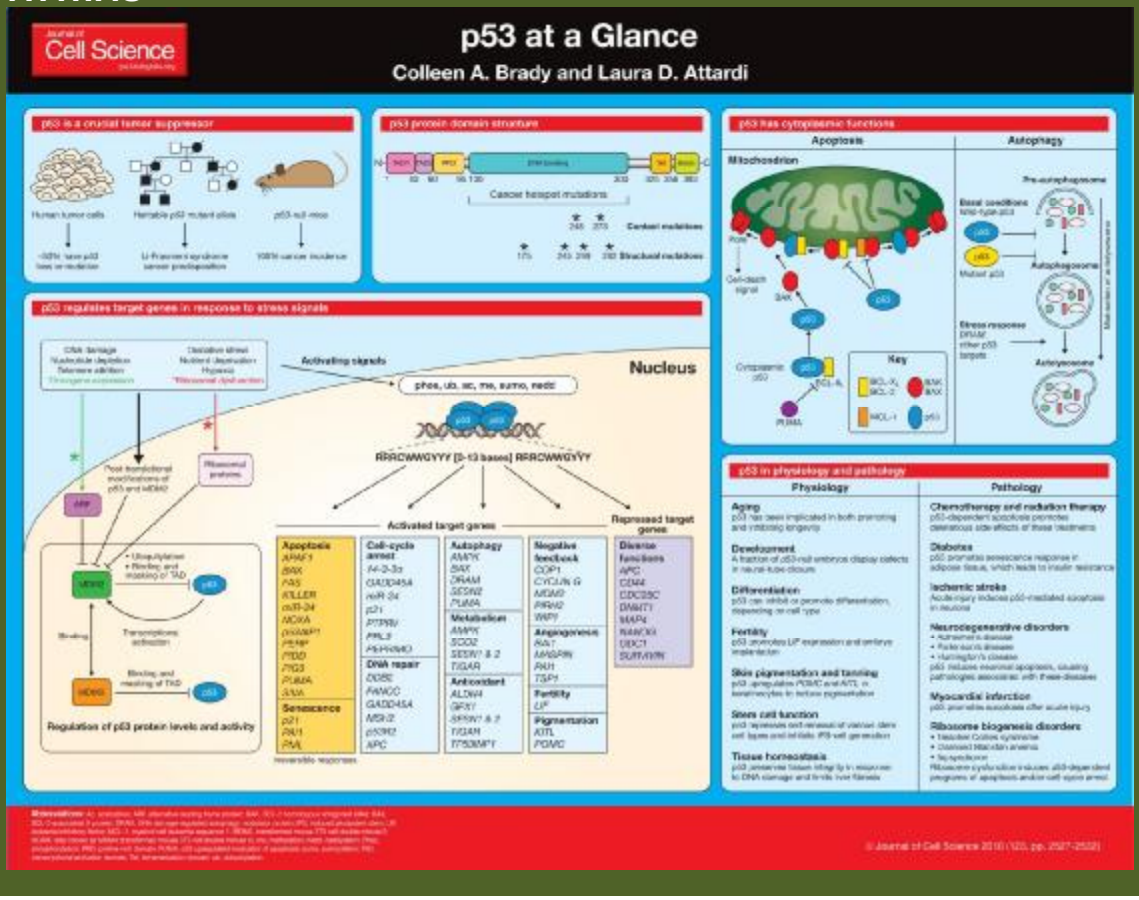

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DNA & Vieillissement

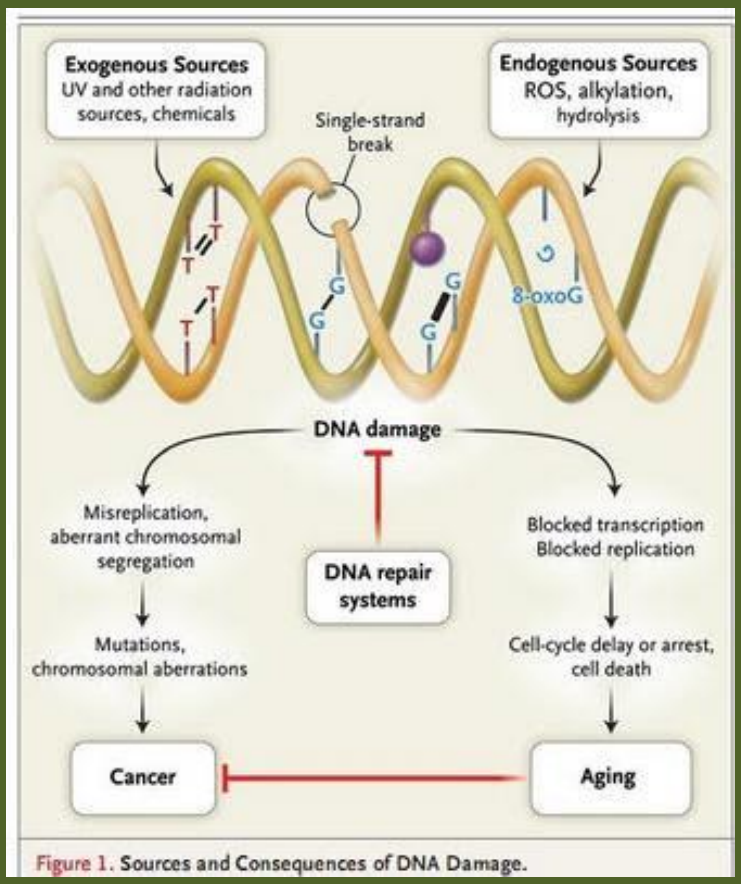

Figure 1. Sources and Consequences of DNA Damage.

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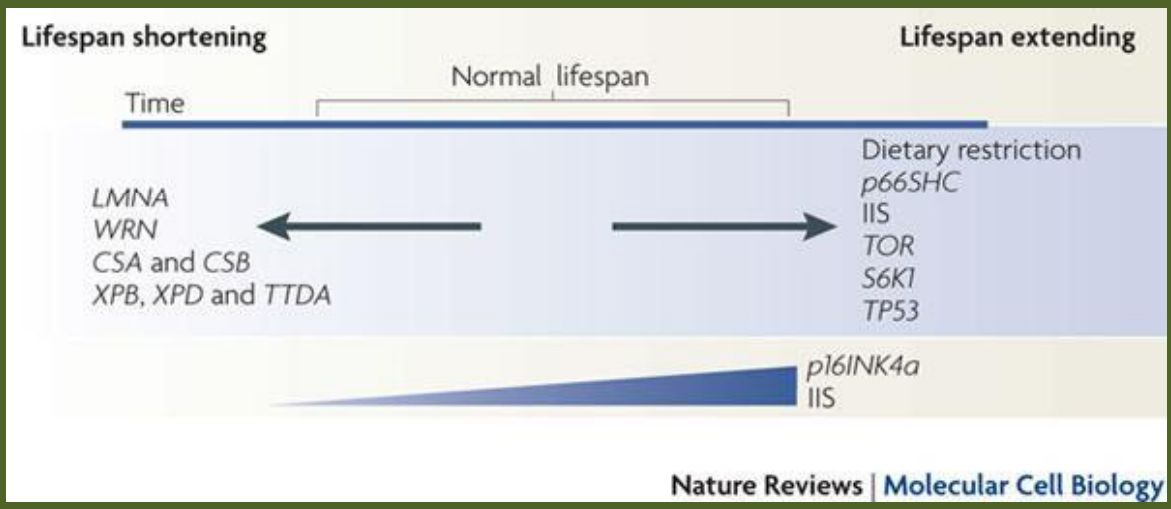
Les Gènes de la Longévité



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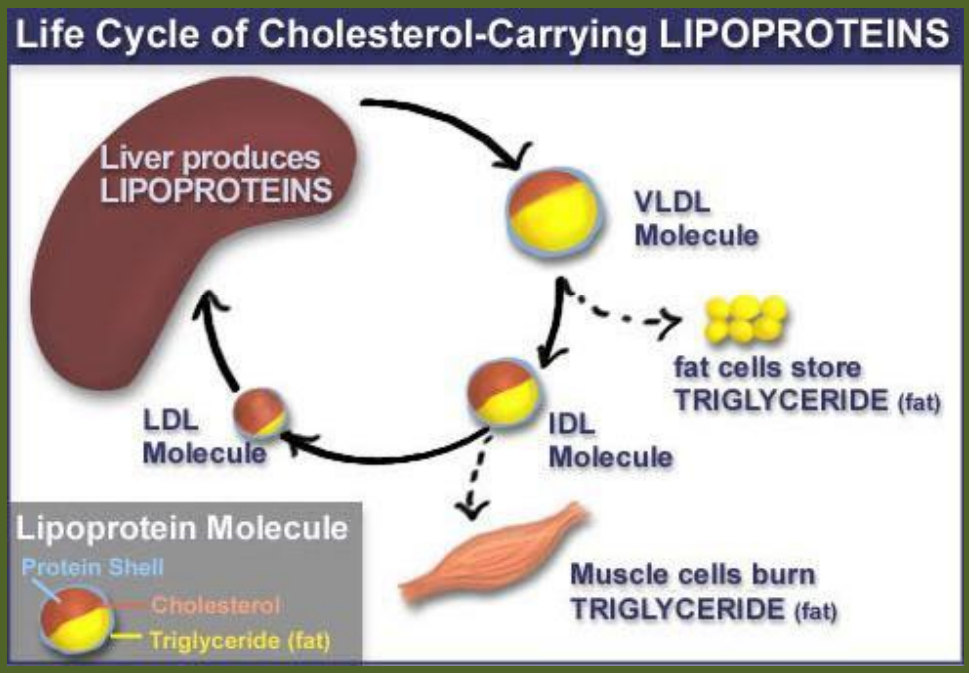
Transport du Cholestérol



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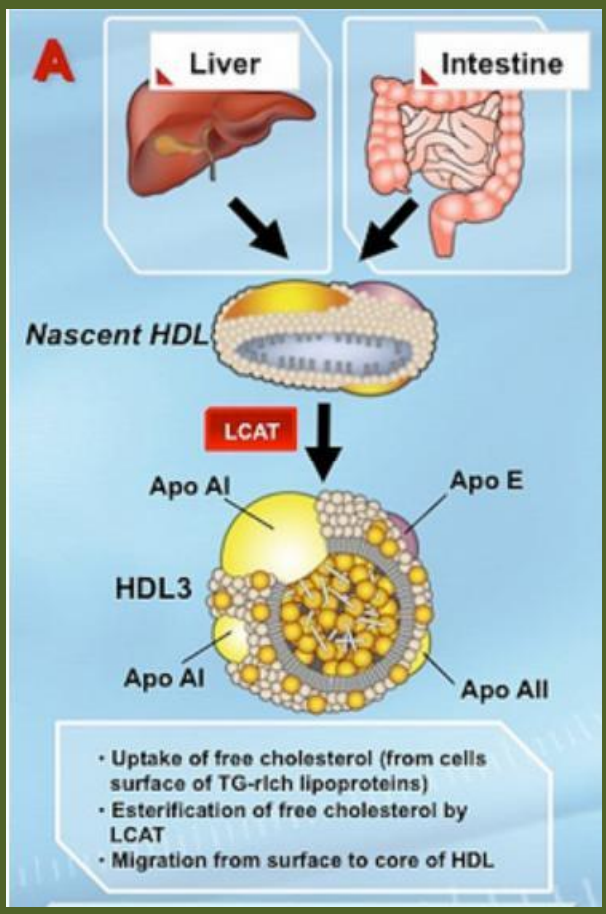
Composition des Lipoprotéines



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Apoprotéines & Espérance de Vie

Tableau 6.2. Exemples de variations alléliques associées à un accroissement de la durée moyenne de la vie

Gène	Propriété modifiée	Effet
APOE	Structure de la protéine APOE	Athérosclérose ↘
APOA1	Capacité de transport des HDL ↗	Athérosclérose ↘
APOC3	Abondance de la protéine APOC3 ↘	Hypertension ↘
CETP	Taille des lipoprotéines ↗	Athérosclérose ↘
MTP	Assemblage des lipoprotéines ↘	Athérosclérose ↘

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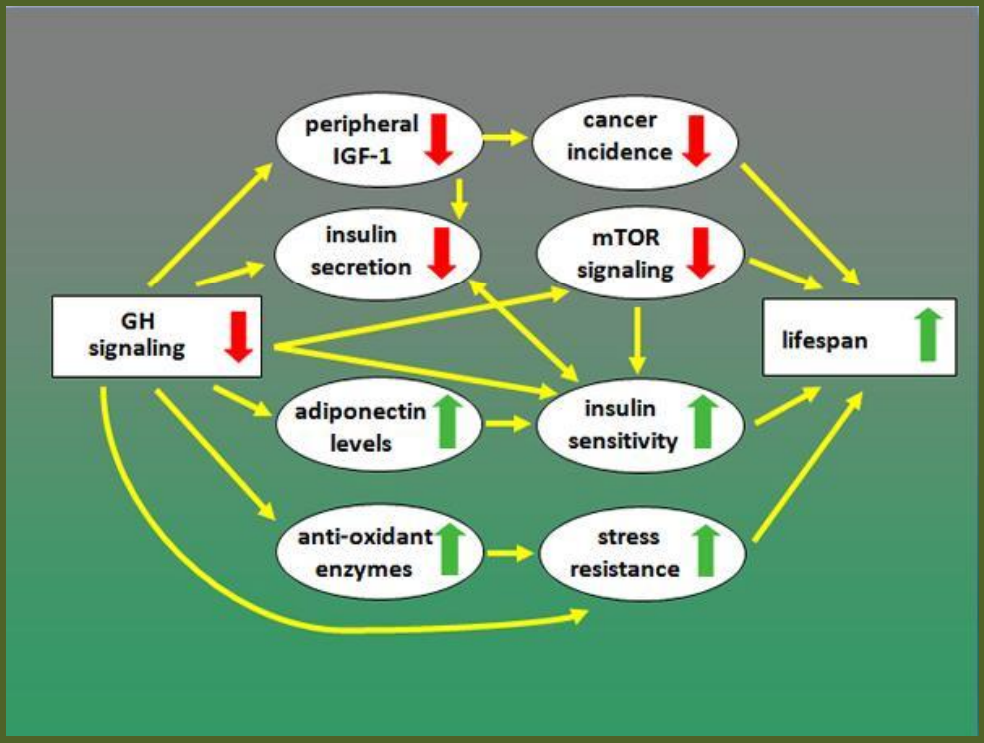
Insuline & Longévité



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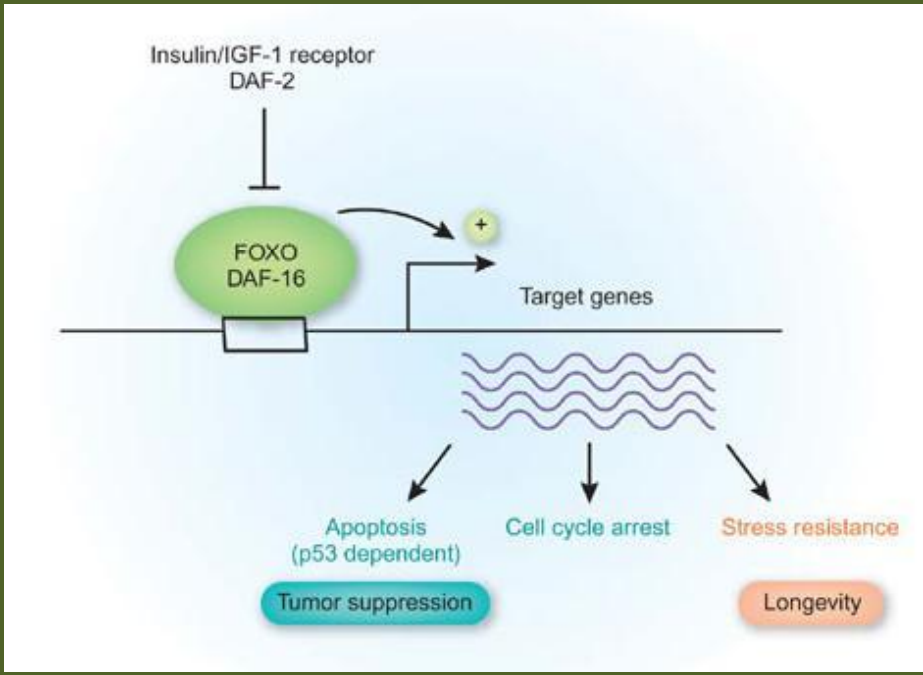
Insuline, Gène FOXO & Longévité



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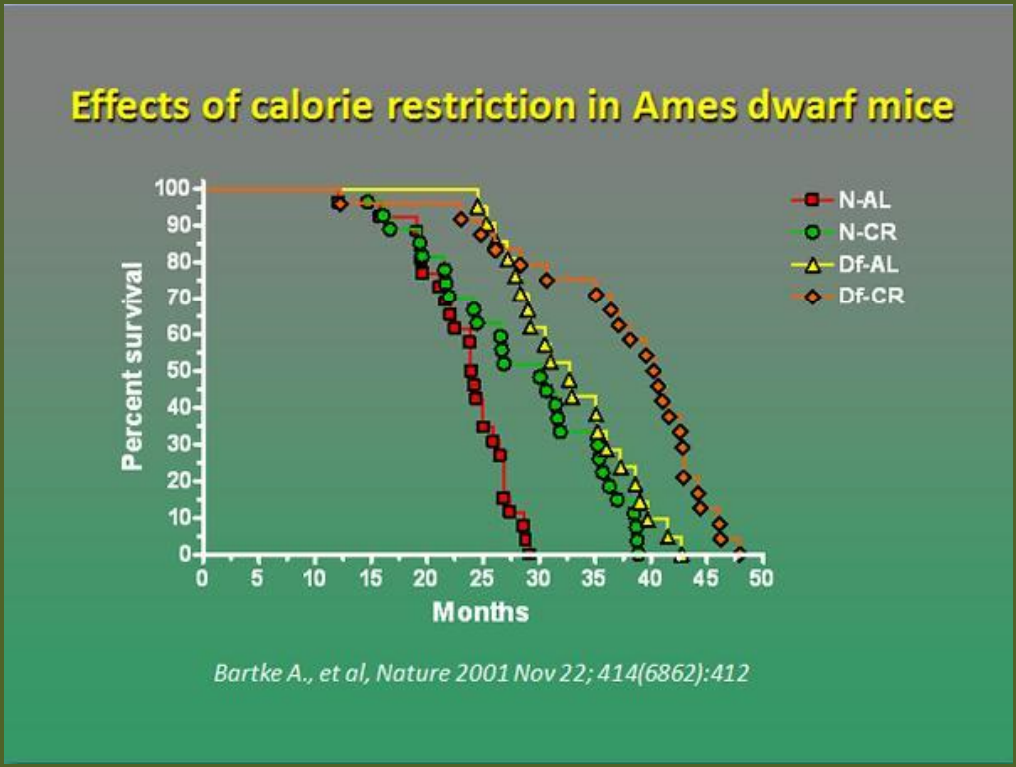
Restriction Calorique & Longévité



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Sirtuines & Longévité

Tabl. XXV. Propriétés des sirtuines des mammifères

Variété	Localisation cellulaire	Activité enzymatique	Cibles	Mécanisme(s) activé(s) ou inhibé(s)
Sirt1 (1)	Noyau	Désacétylase	FoxO3 ↗	Désintoxication ↗
			PPARγ ↘	Adipogenèse ↘
			PGC1α ↗	Biogenèse des mitochondries ↗ Gluconéogenèse ↗
				Glycolyse ↘
			UCP2 ↘	Sécrétion d'insuline ↗
			LXR ↗	Athérosclérose ↘
			P53 ↘	Apoptose ↘
			Ku70 ↗	Apoptose ↘
Sirt2	Cytosol	Désacétylase	Histones	Mitoses ↘
Sirt3 (1)	Mitochondries	Désacétylase	ACECS2 ↗	Métabolisme énergétique ↗
Sirt4 (2)	Mitochondries	ADP-ribosyltransférase	GDH ↘	Sécrétion d'insuline ↘
Sirt5	Mitochondries	Désacétylase	?	?
Sirt6	Noyau	ADP-ribosyltransférase	?	Réparation de l'ADN ↗
Sirt7	Nucléole	?	ARN pol I ↗	Synthèse de l'ARN ribosomique ↗

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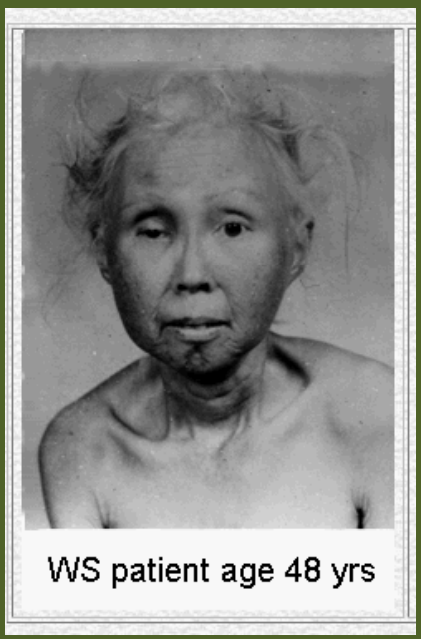
Syndrome de Werner

WS patient age 15 yrs



WS patient age 48 yrs

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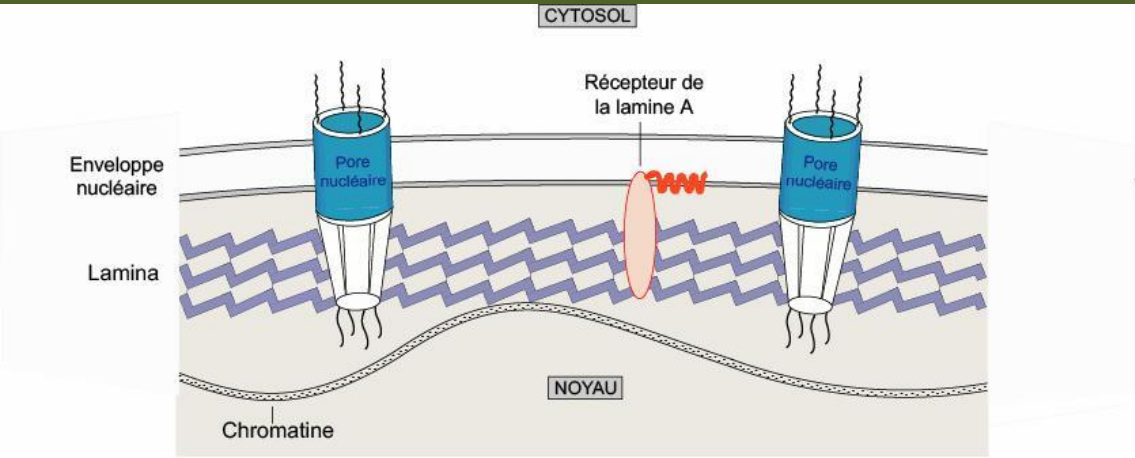
La Lamine Nucléaire



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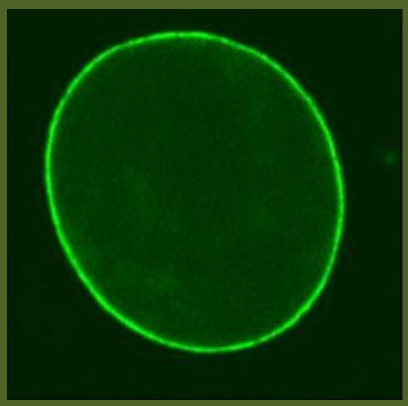
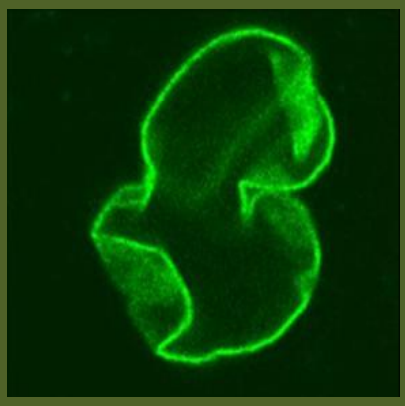
Lamine nucléaire



Noyau à Lamine normale



Lamine anormale (progérine)

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Les clefs de la Longévité (?)