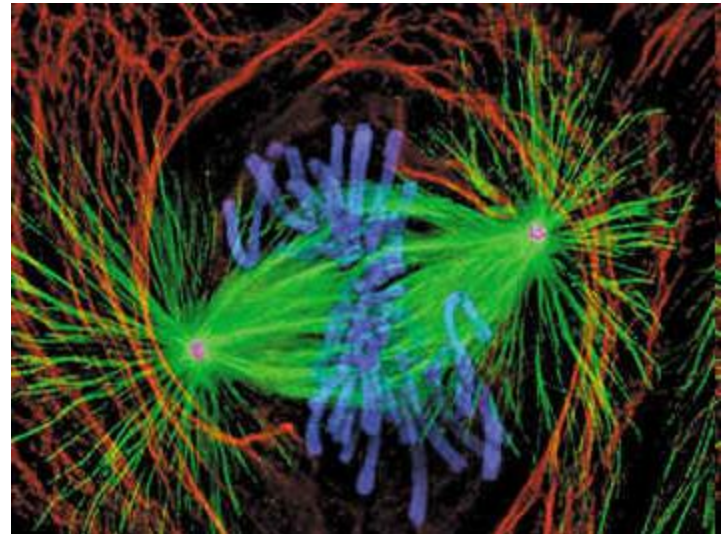
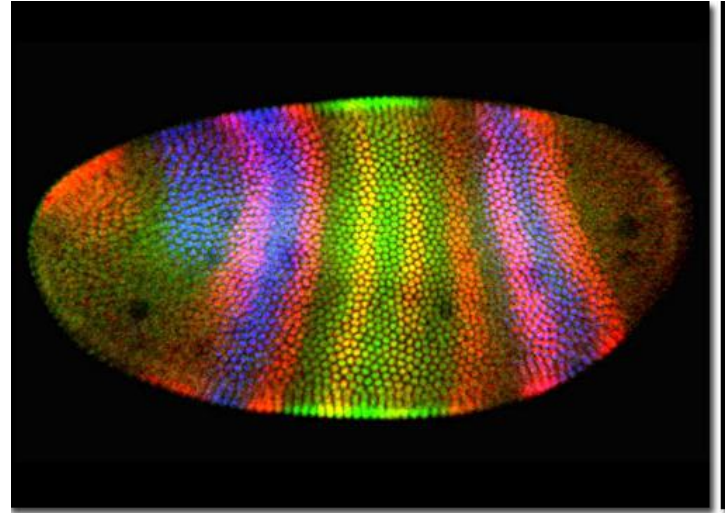
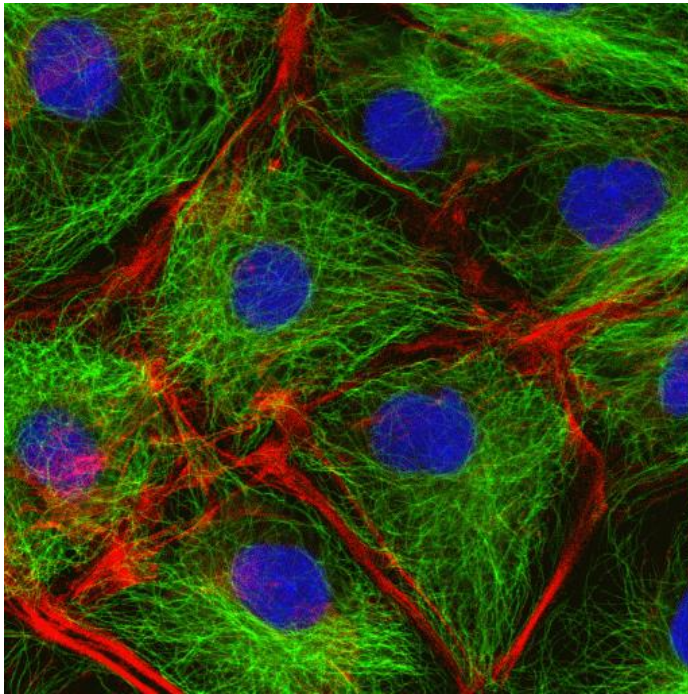




A photograph of a dirt road leading towards the ocean. The road is in the foreground, flanked by dry, brownish vegetation. In the distance, the ocean is visible under a cloudy sky. The text "TAKE A DEEP BREATH. START AGAIN." is overlaid in white, handwritten-style capital letters.

TAKE A DEEP BREATH.
START AGAIN.

ΒΙΟΛΟΓΙΑ ΚΥΤΤΑΡΟΥ



Αντώνης Σταματάκης

Καθηγητής Βιολογίας-
Βιολογίας Συμπεριφοράς

ΒΙΟΛΟΓΙΑ ΚΥΤΤΑΡΟΥ

- Τελική εξέταση 90% τελικού βαθμού
- Εργαστήριο 10% τελικού βαθμού

ΒΙΟΛΟΓΙΑ ΚΥΤΤΑΡΟΥ

<https://eclass.uoa.gr/courses/NURS302/>

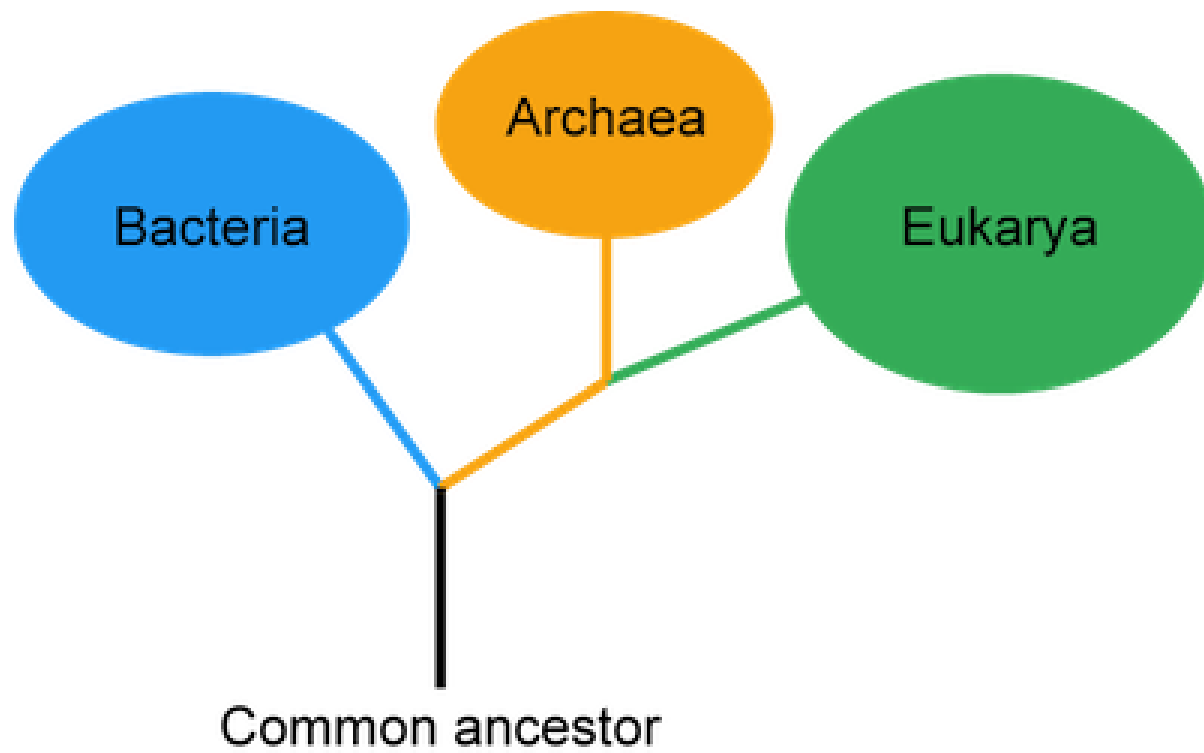
astam@nurs.uoa.gr

Χαρακτηριστικά έμβιων συστημάτων

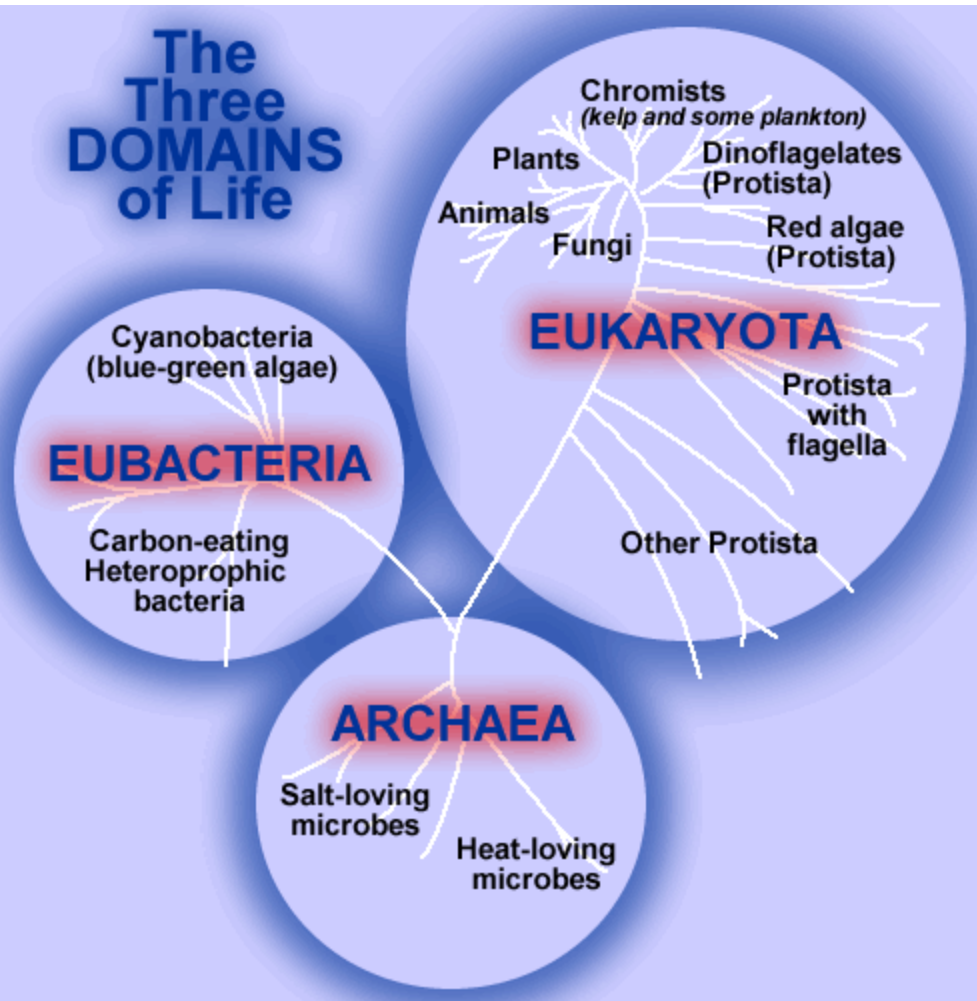
- Βασίζονται σε μόρια με C
- Δυνατότητα αναπαραγωγής
- Εξέλιξη με βάση τη Φυσική Επιλογή

Χαρακτηριστικά έμβιων συστημάτων

- Πολύπλοκη Οργάνωση
- Ενότητα των βιοχημικών διεργασιών

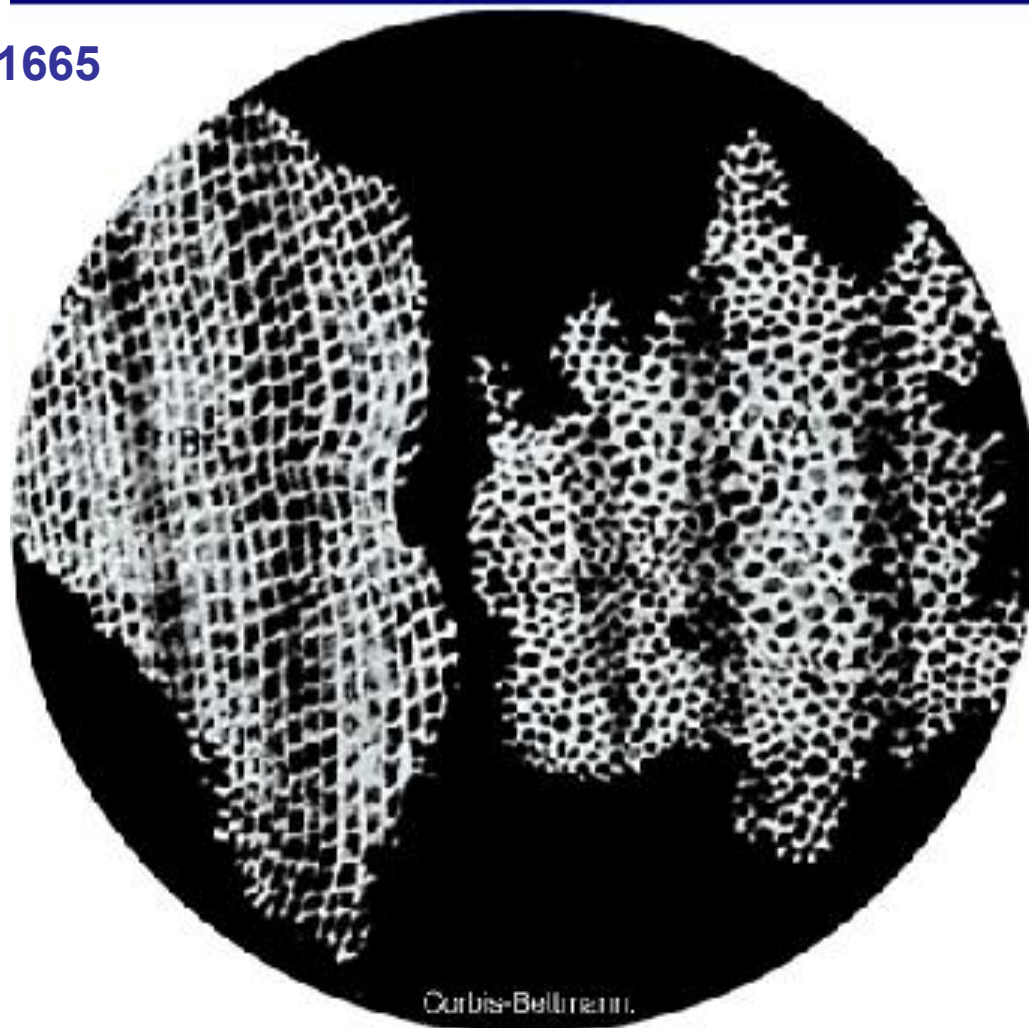


The Three DOMAINS of Life



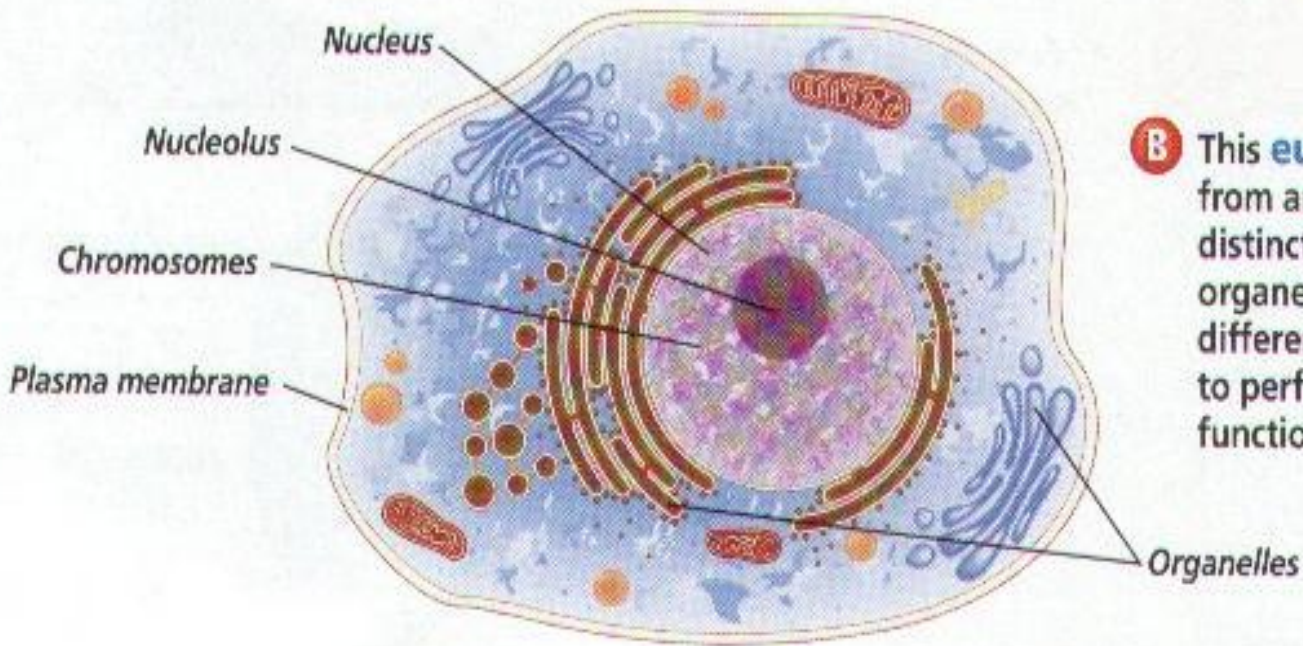
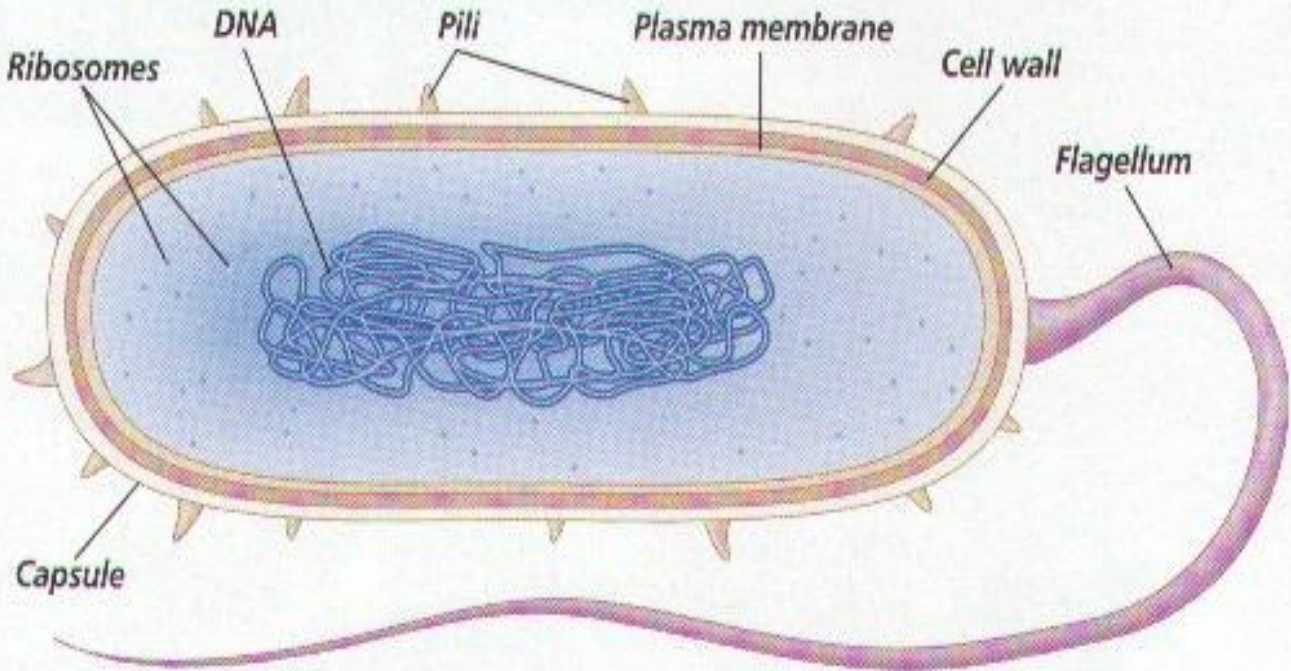
Robert Hooke's microscope and drawing of cork "cellulae"

1665



Bacteria and archaeobacteria are prokaryotes. All other organisms are eukaryotes.

A A **Prokaryotic cell** does not have internal organelles surrounded by a membrane. Most of a prokaryote's metabolic functions take place in the cytoplasm.

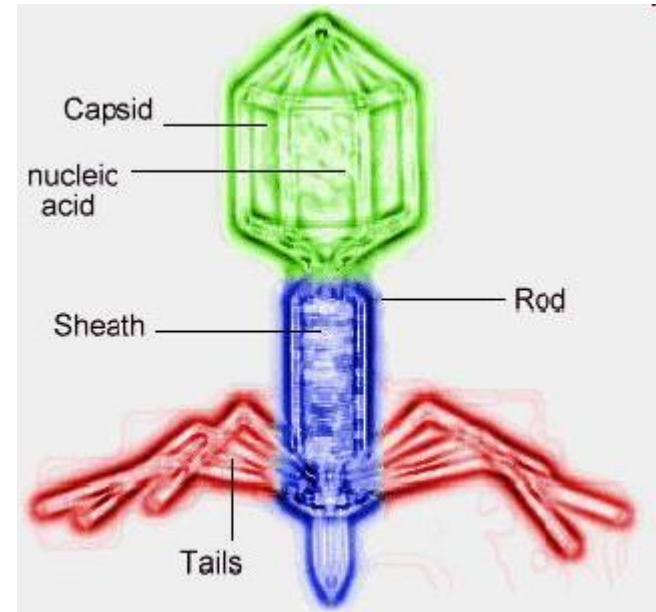
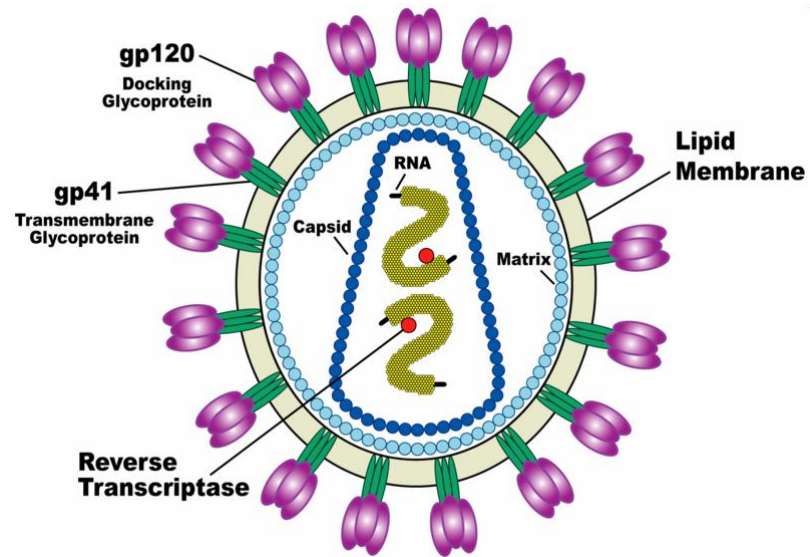


B This **eukaryotic cell** from an animal has distinct membrane-bound organelles that allow different parts of the cell to perform different functions.

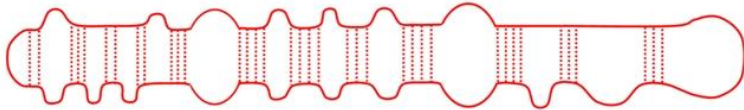


	Bacteria	Archaea	Eukarya
Cell type	Prokaryotic	Prokaryotic	Eukaryotic
Cell wall	Contains peptidoglycan	Lacks peptidoglycan	If present contains no peptidoglycan
Plasma membrane lipids	Ester links between polar heads and fatty acid tails	Ether links	Ester links
RNA polymerase	One (4 subunits)	Several (8-12 subunits each)	Three (12-14 subunits each)
Initiator tRNA	Formylmethionine	Methionine	Methionine

loí



Ιοειδή



Structure of a viroid – circular single-stranded RNA with some pairing between complementary bases and loops where no such pairing occurs

Viroids

- Small, circular **RNA** molecules without a protein coat. RNA does not code any protein.
- Infect plants
- **Resemble** introns cut out of eukaryotic

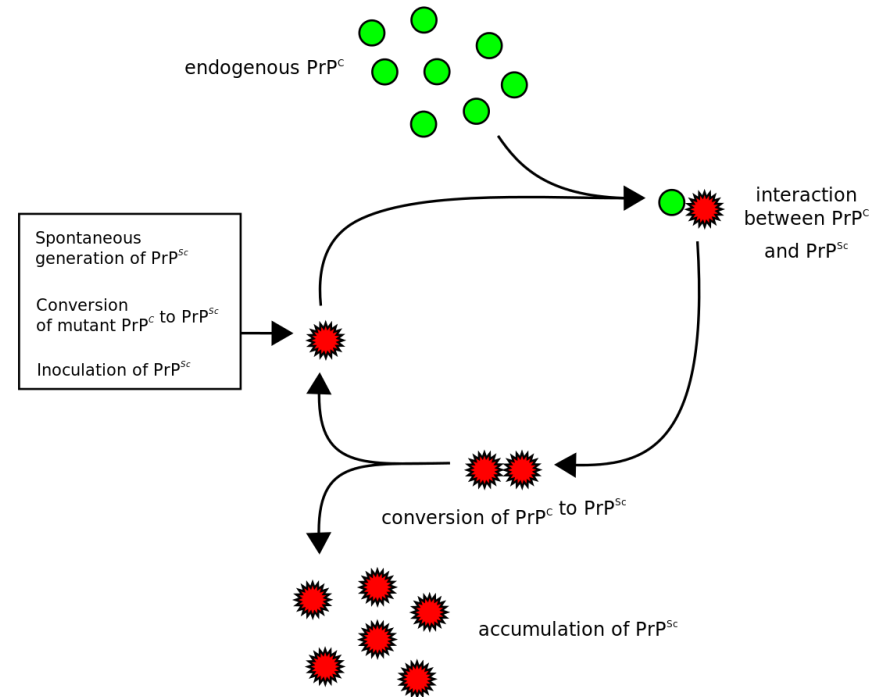


Πριόνια (Prions)

- **Prions**

- Infectious particles that are entirely protein.
- No nucleic acid
- Highly heat resistant
- Animal disease that affects nervous tissue
- Affects nervous tissue and results in
 - Bovine spongiform encephalitis (BSE) “mad cow disease”,
 - Scrapie in sheep
 - kuru & Creutzfeldt-Jakob Disease (CJD) in humans

Dr.T.V.Rao MD



Πριόνια (Prions)

How Creutzfeldt-Jakob disease works

CAUSE

Creutzfeldt-Jakob disease is caused by abnormal proteins called prions that are not killed by standard methods for sterilizing surgical equipment.



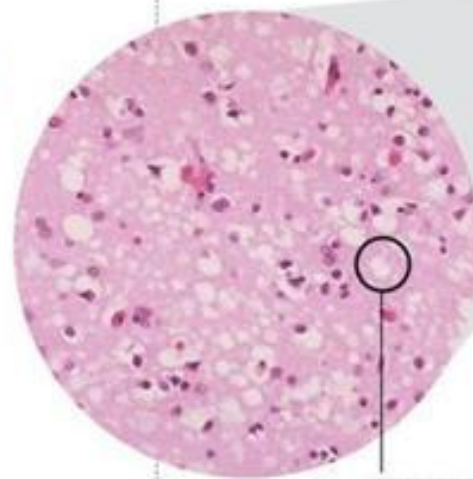
**NORMAL
HUMAN
PROTEIN**

**DISEASE-
CAUSING
PRION**

As prions build up in cells, the brain slowly shrinks and the tissue fills with holes until it resembles a sponge.

CONSEQUENCES

Those affected lose the ability to think and to move properly and suffer from memory loss. It is always fatal, usually within one year of onset of illness.



SPONGE-LIKE LESION



BRAIN SHRINKS

SOURCES: World Health Organization, Centers for Disease Control and Prevention, National Institute of Neurological Disorders and Stroke, AP

DAVID BUTLER, CHIQUI ESTEBAN, JAVIER ZARRACINA/GLOBE STAFF

Ποια είναι τα κοινά χαρακτηριστικά των έμβιων όντων;
Σε ποιες επικράτειες κατατάσσονται τα έμβια όντα;
Ποιες οι διαφορές μεταξύ ευκαρυωτών και προκαρυωτών;
Τι είναι τα πριόνια;