

Guddommelig lort • Et webinar om tarmfloraen og dens betydning for dit helbred

Umahro Cadogan



House rules

Webinaret bliver optaget og sendt ud bagefter via mit nyhedsbrev

Der bliver også sendt slides ud i mit nyhedsbrev som en PDF-fil

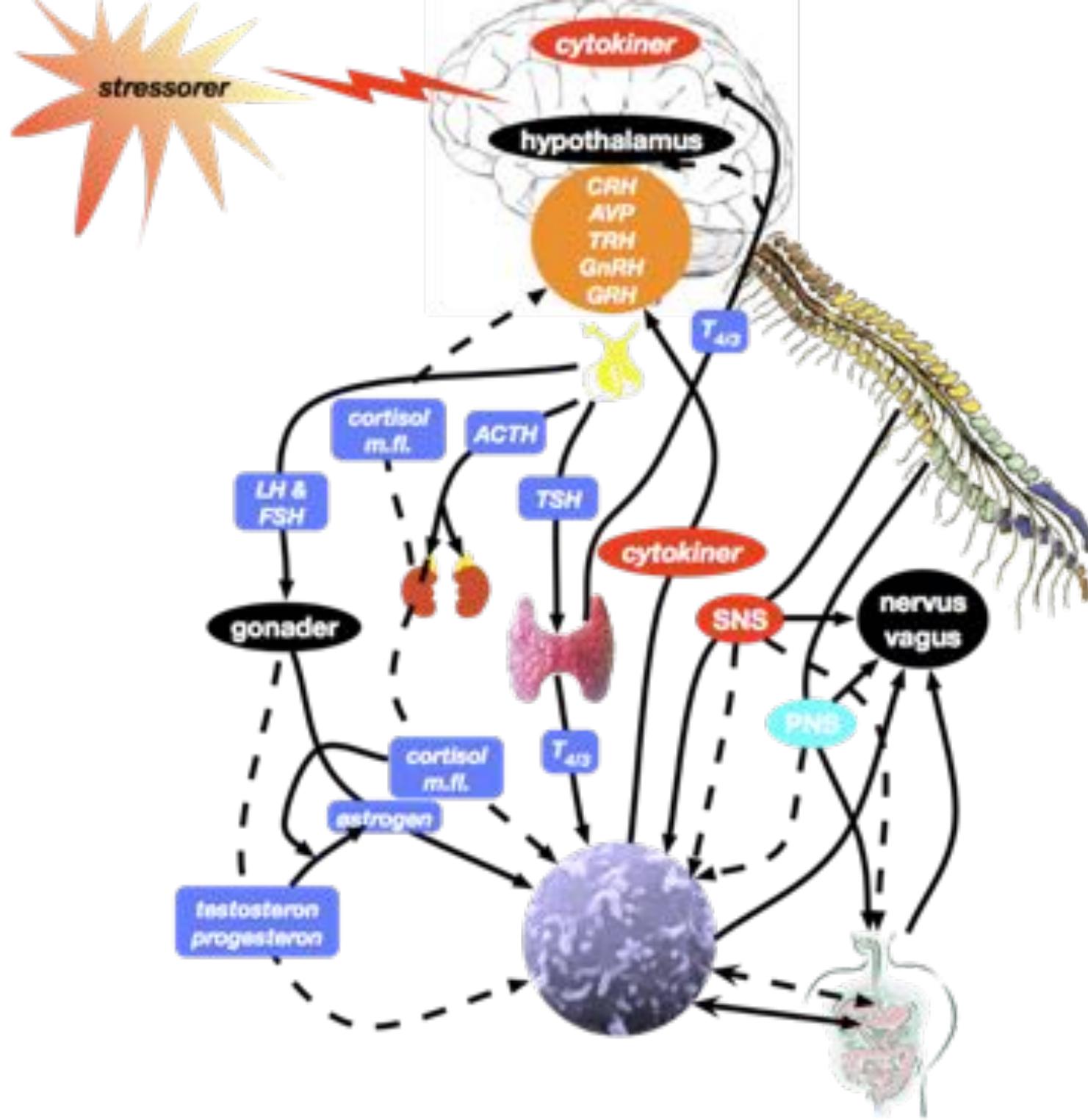
Vent med dine spørgsmål til efter selve præsentationen... jeg skal nok sige til, når jeg åbner op for spørgsmålene



**“Sundhed og sygdom
starter i tarmene...”**

-Metchnikoff

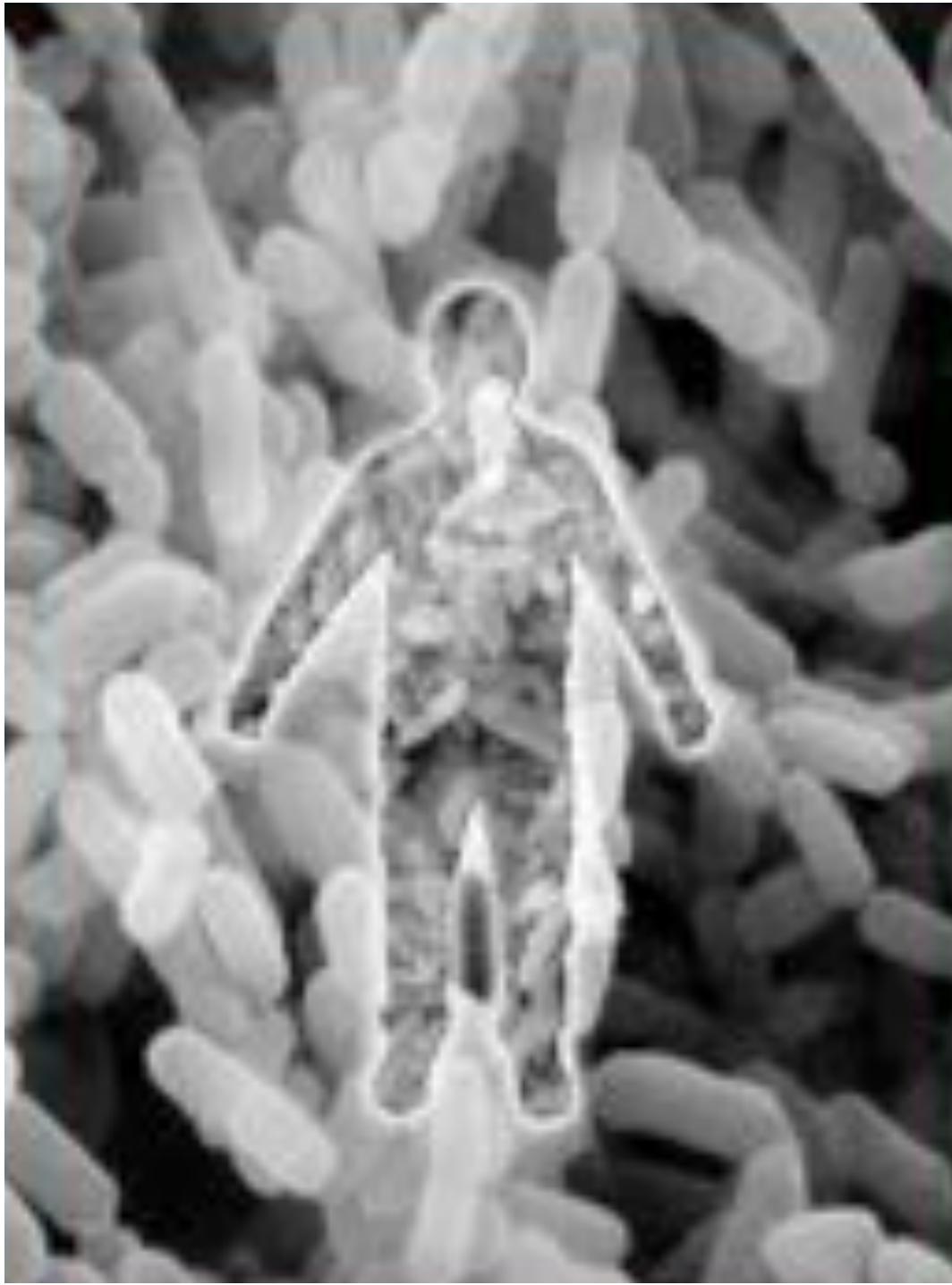


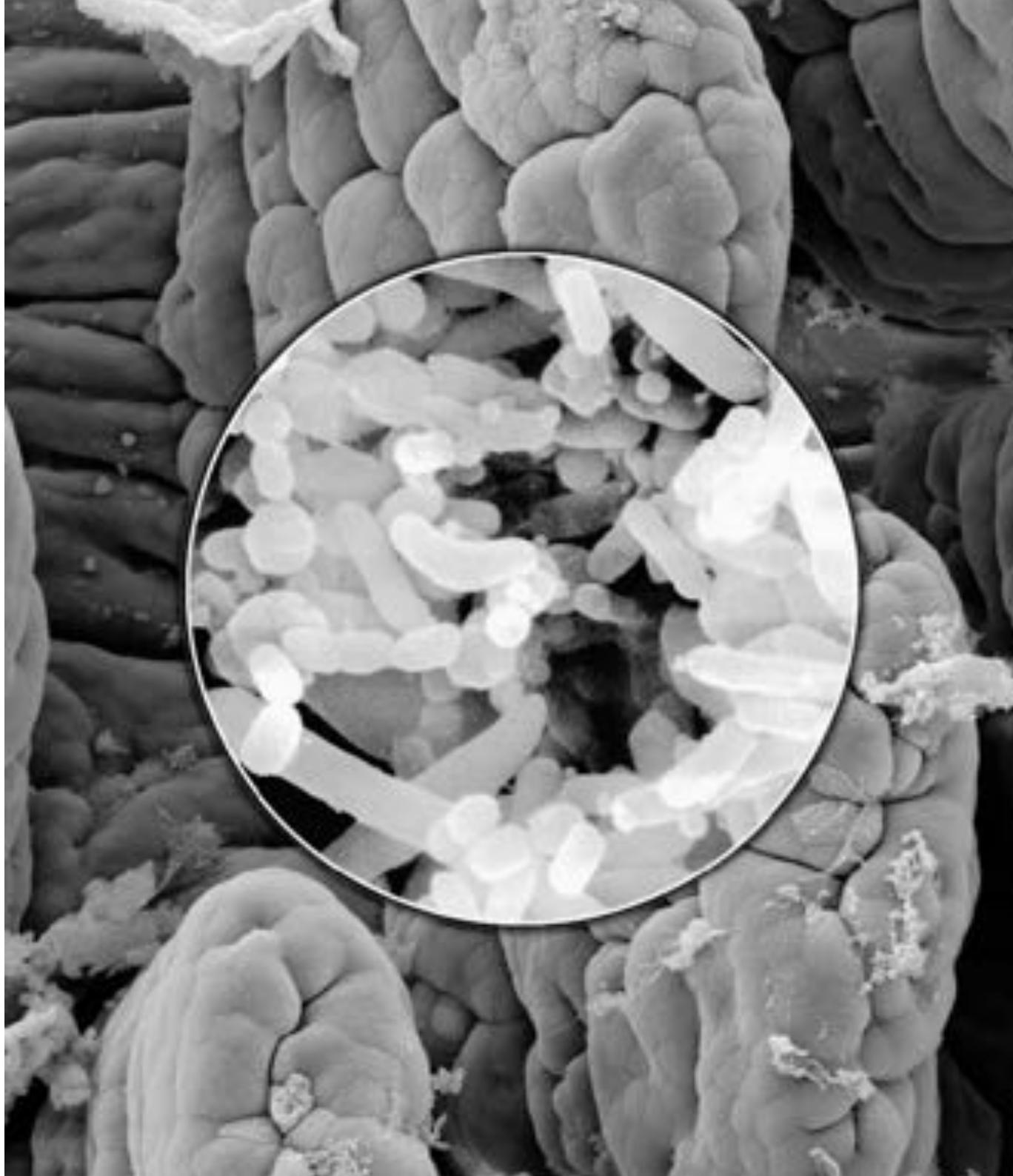


Du er i undertal









Din krops celler er i undertal

Ca. 10^{13} celler i menneskekroppen: 100.000.000.000.000
celler

Ca. 10^{14} mikroorganismer i dit mavetarmsystem:
1.000.000.000.000

1:10 forhold menneskeceller:mikrober



Hvem er gæsterne?

De 1.000.000.000.000.000 mikrober i dit mavearmsystem
er et ekstra organ/system

Lige så stor indflydelse på kroppen som lever, nyrer
o.s.v.

De lever af den mad du spiser og påvirkes af hvad du gør



Hvem bor dernede?

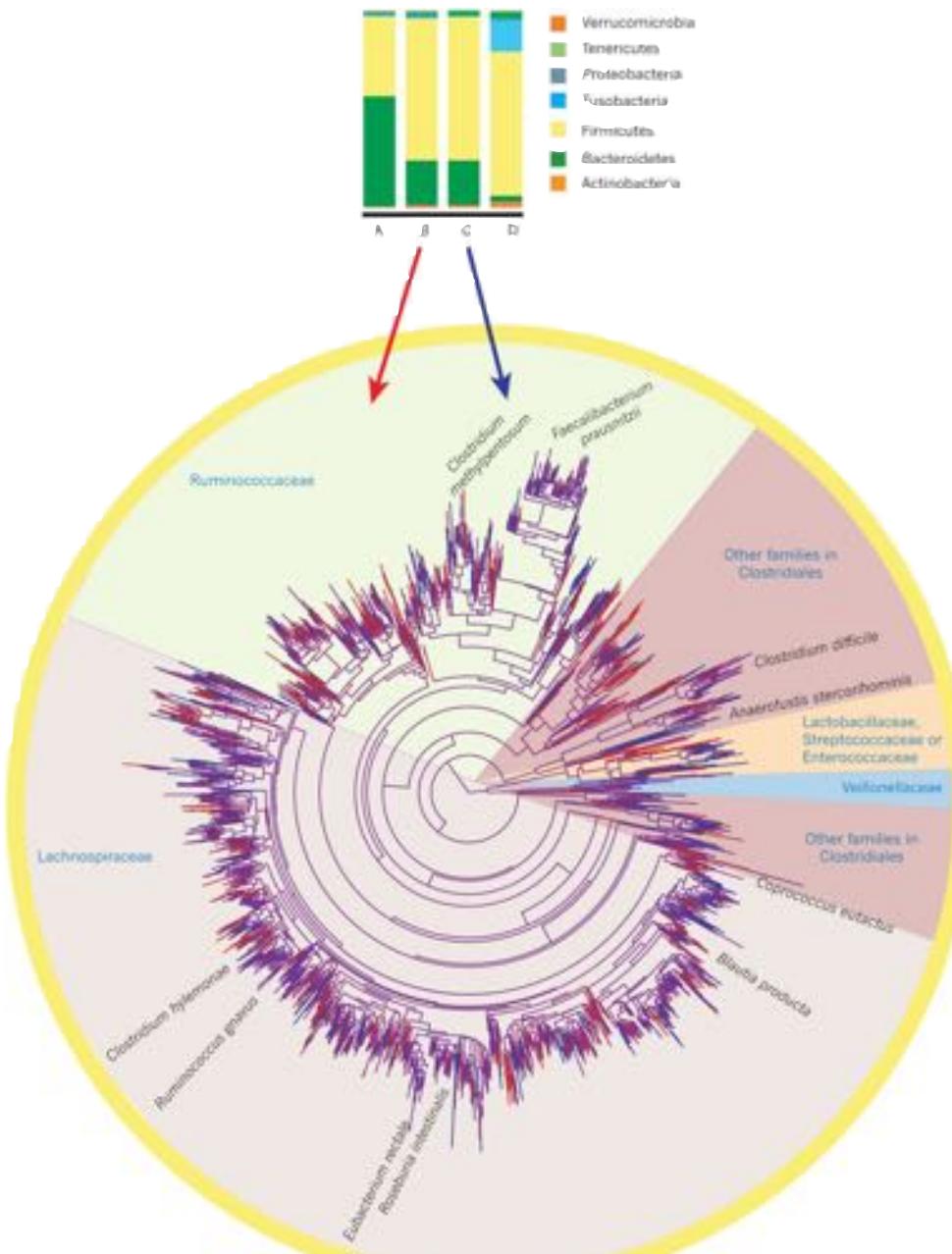
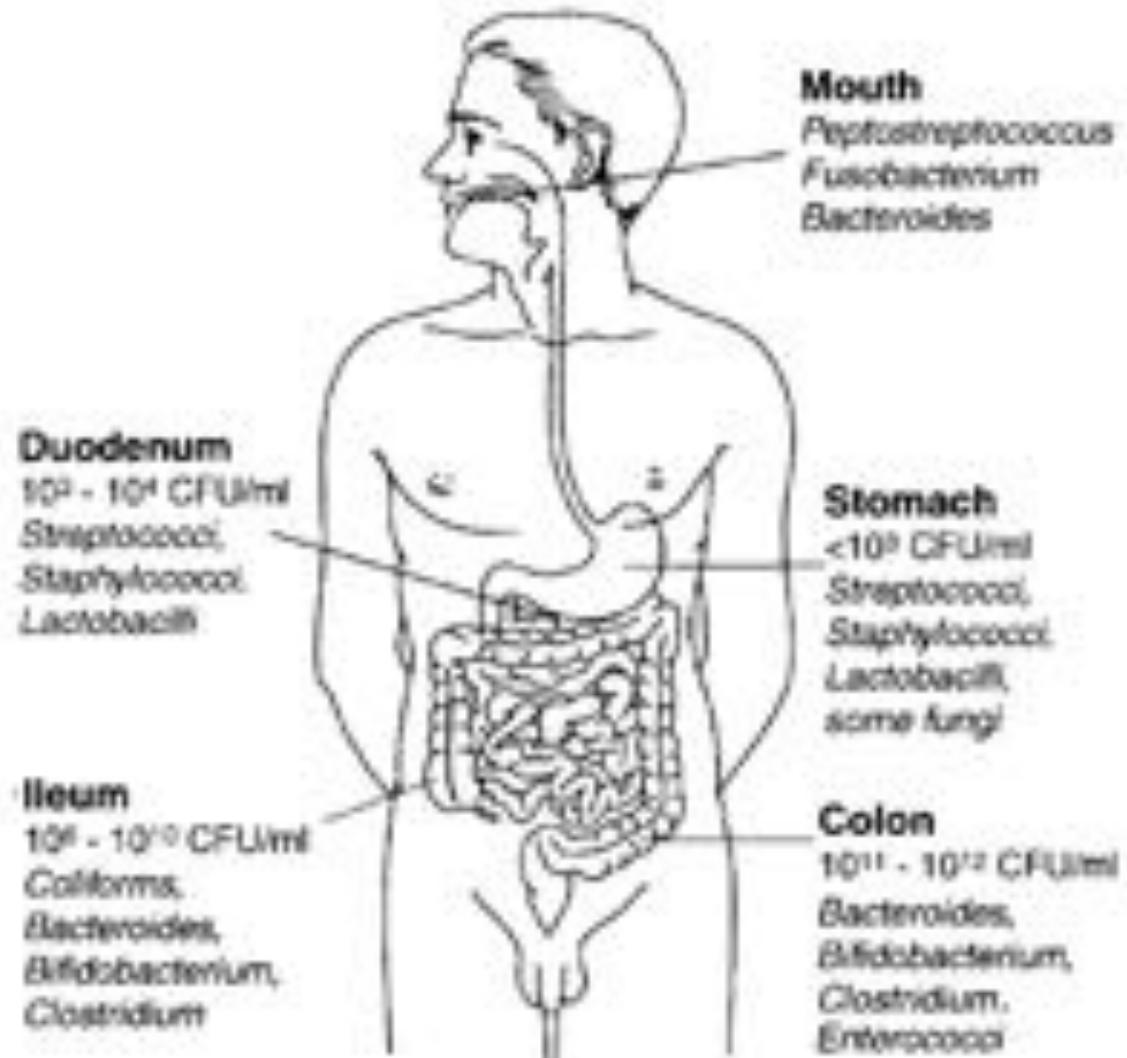
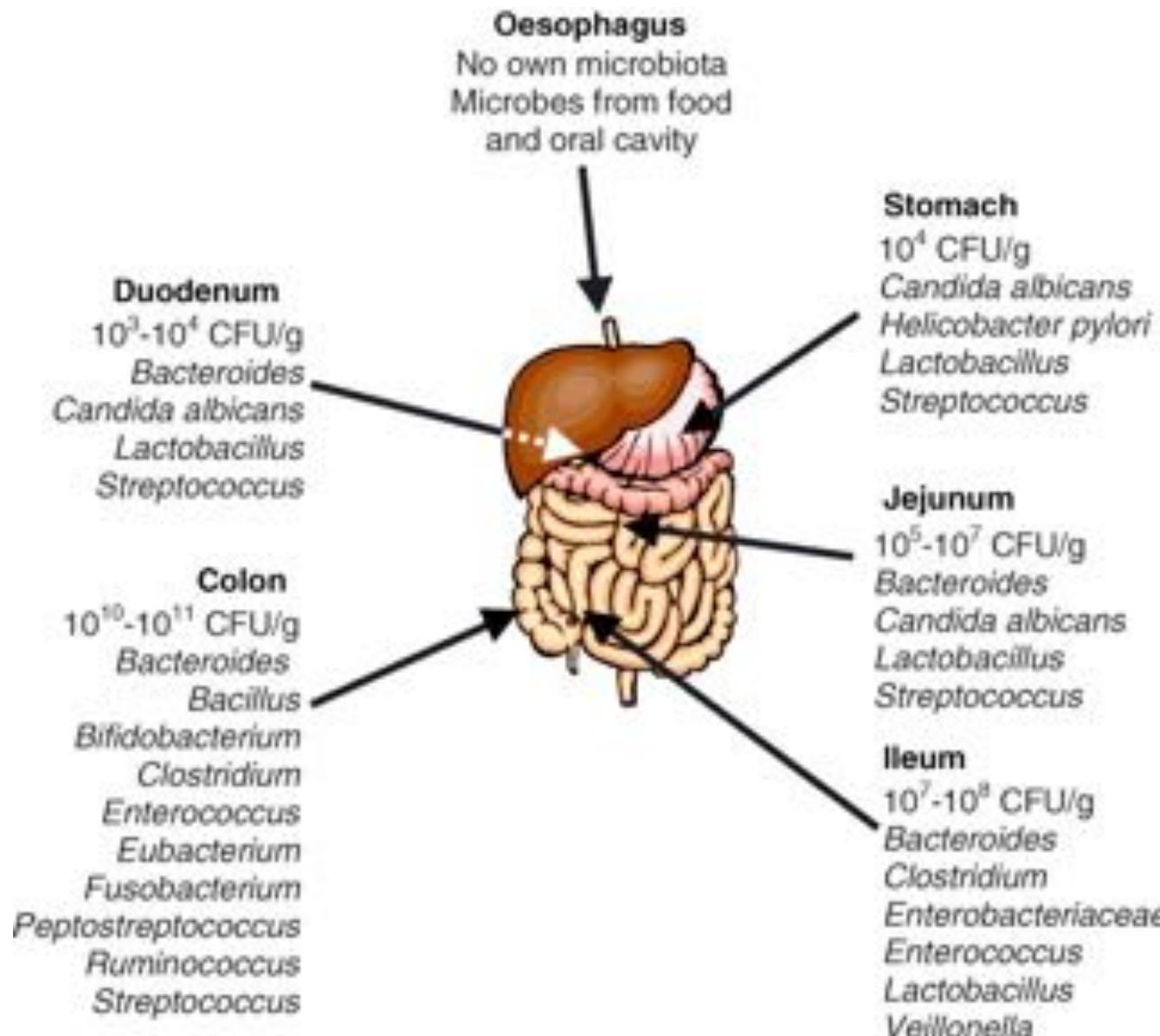


Figure 1. Micro-organisms in the GI Tract

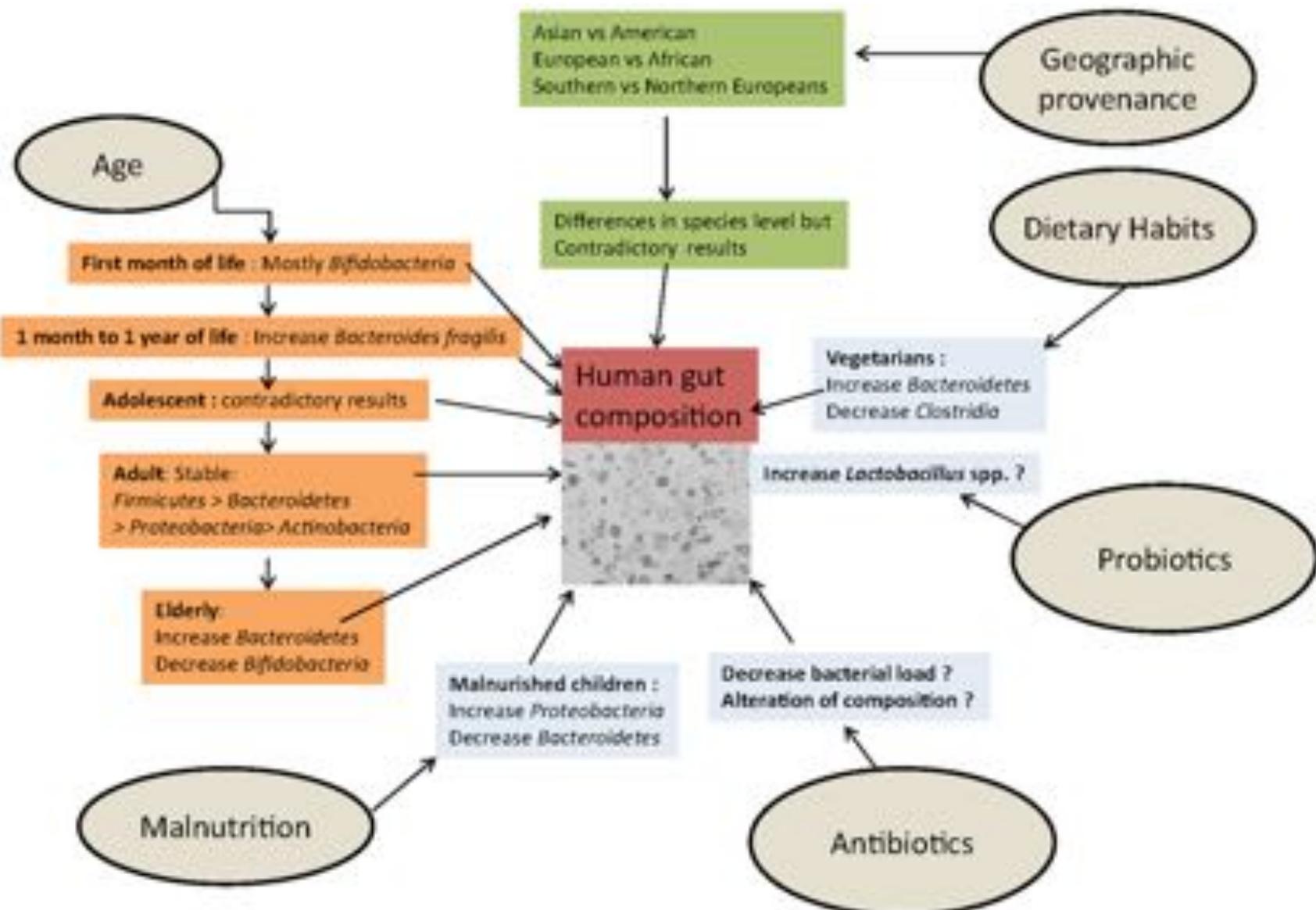




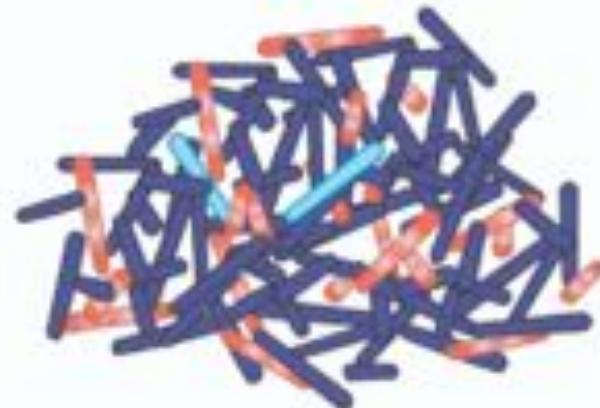
Monokultur eller diversitet?



Du og miljøet bestemmer



Low-fat, high-polysaccharide (CHO) diet



High-fat, high-sugar (Western) diet



Bacteroidetes
Firmicutes
Mollicutes

Changes in gut microbial ecology:

- reduction in Bacteroidetes and proportional increase in Firmicutes
- dramatic fall of overall diversity
- bloom of a single class of Firmicutes: the Mollicutes

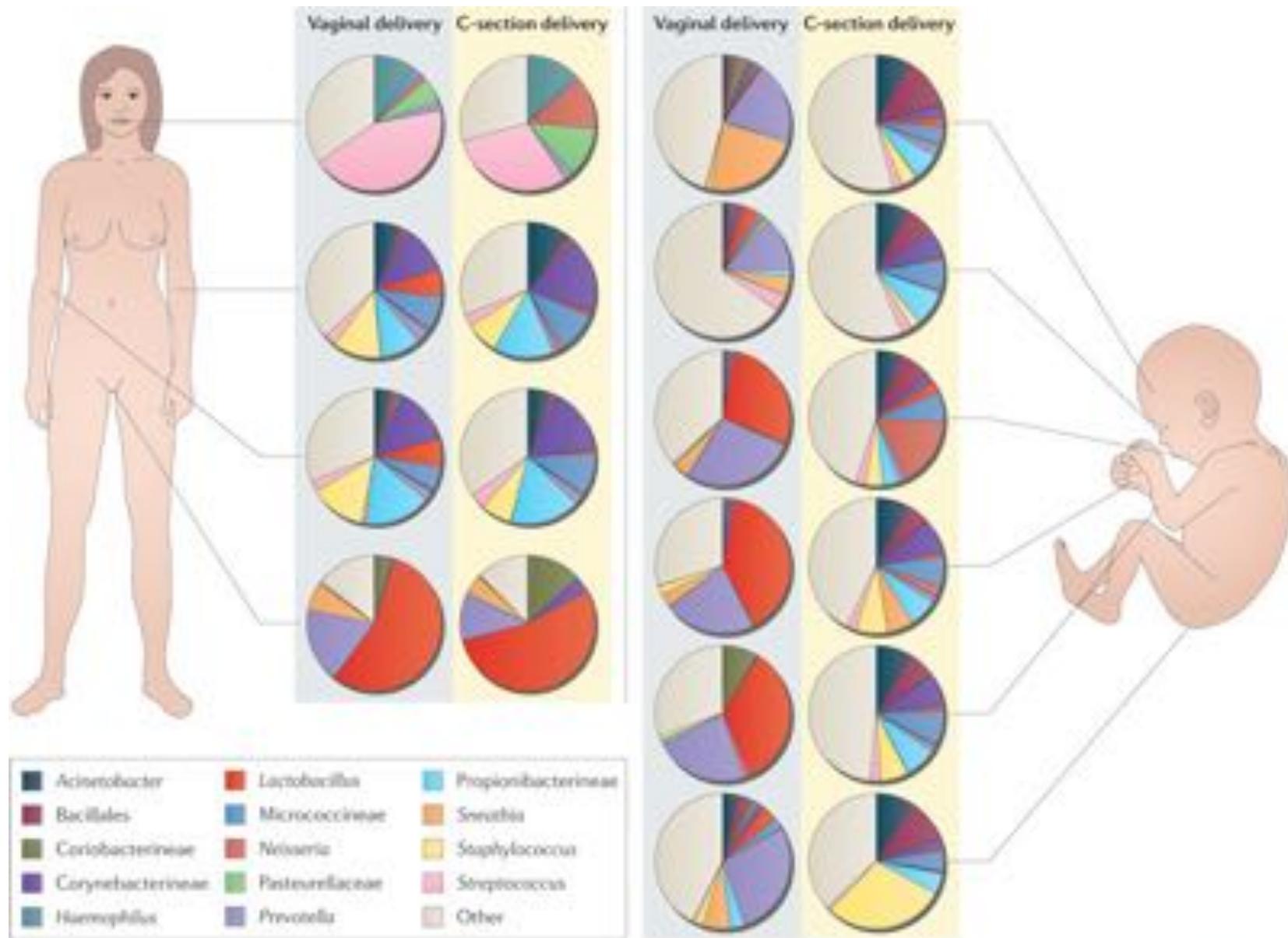
Alterations of metabolic potential:

- enrichment for phosphotransferase systems: import and fermentation of simple sugars
- enrichment for genes encoding beta-fructosidases
- depletion for motility genes, e.g. bacterial chemotaxis, motility proteins, flagellar assembly

Consequences:

- increased capacity to import "Western-diet"-typical carbohydrates
- increased capacity to metabolize imported sugars to short-chain fatty acids

Hvordan blev du født?



Nature Reviews | Microbiology

“Ubudne gæster”?

“Ubudne gæster”?



“Ubudne gæster”?



“Ubudne gæster”?

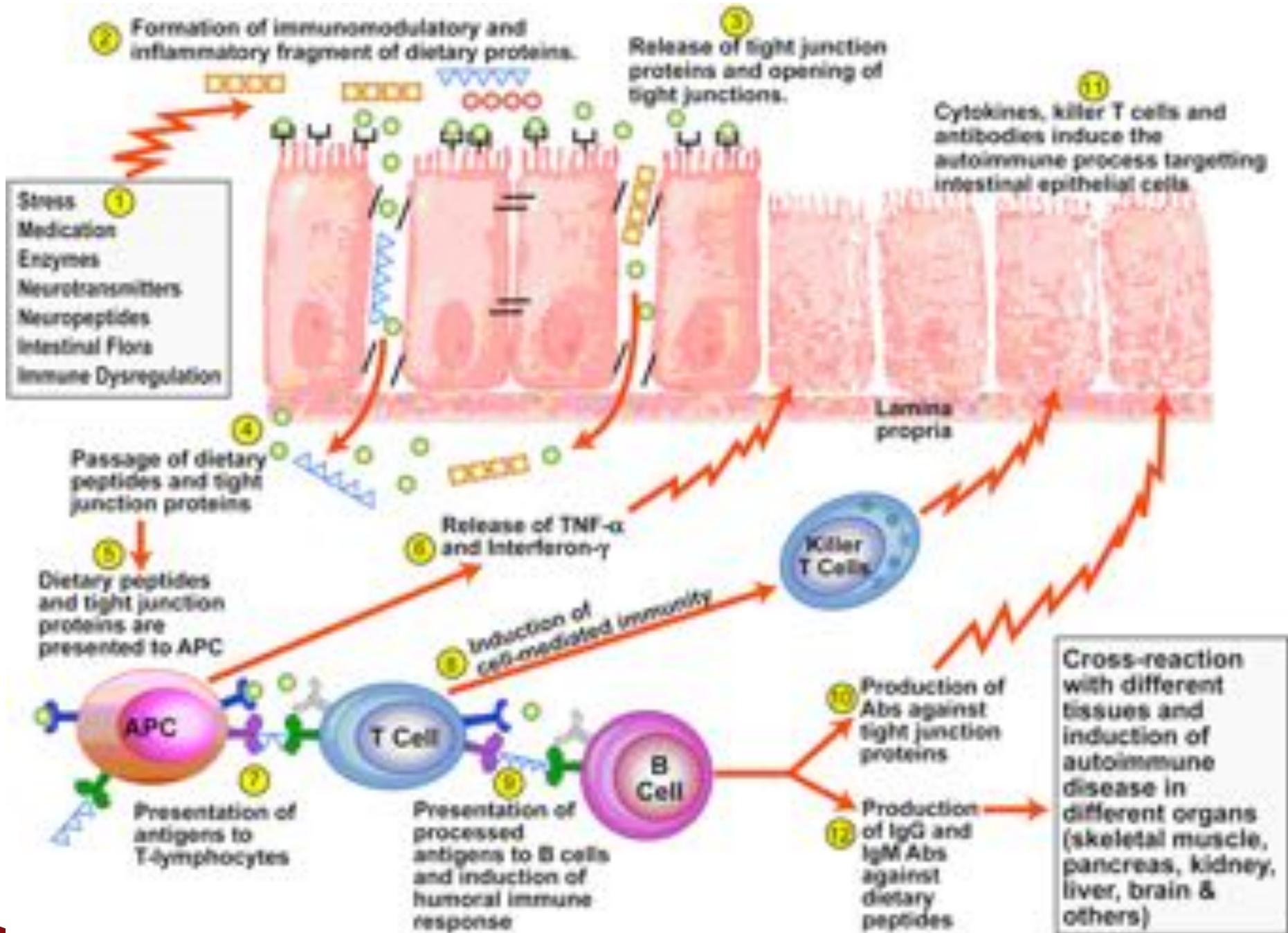


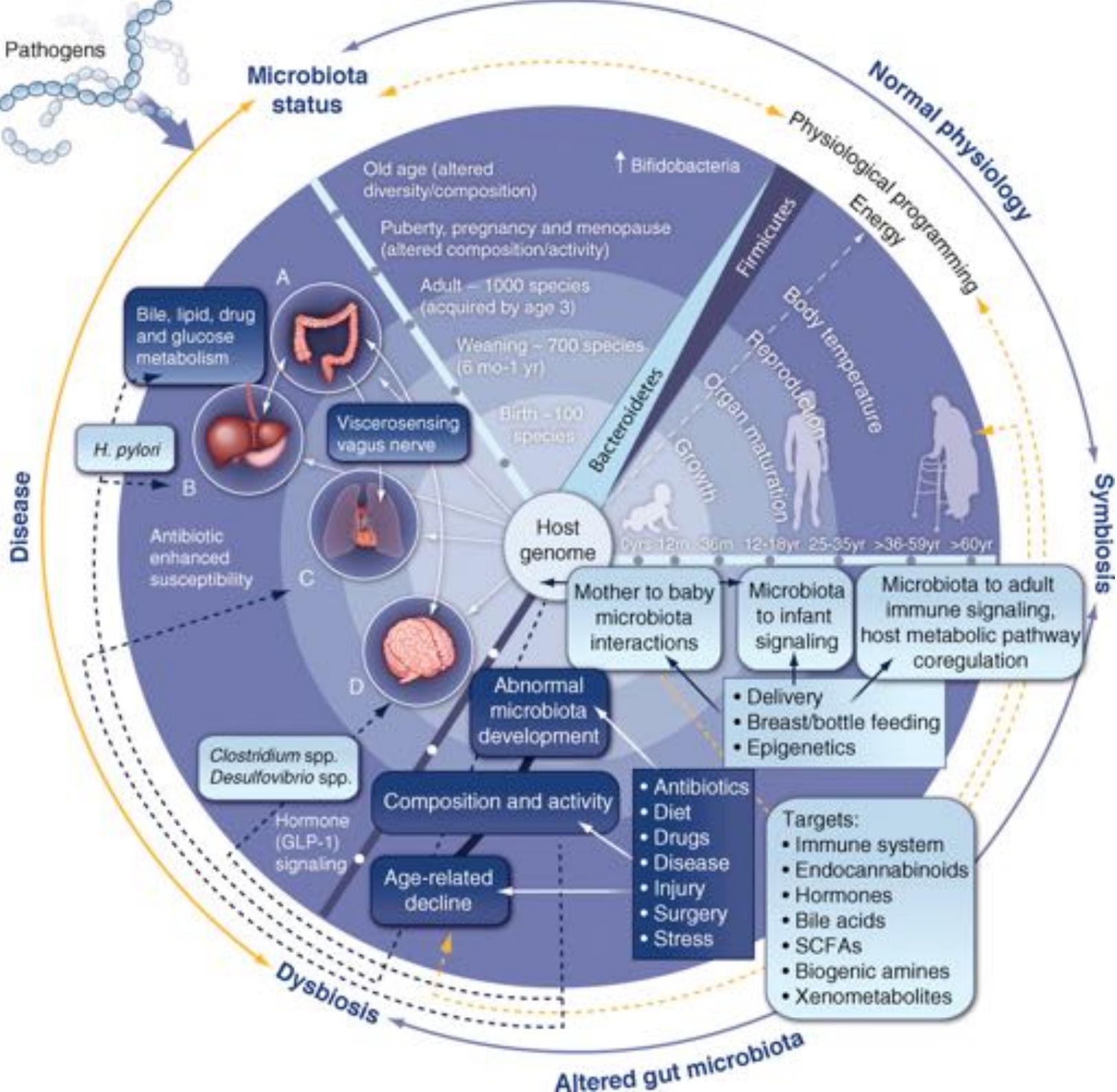
“Ubudne gæster”?

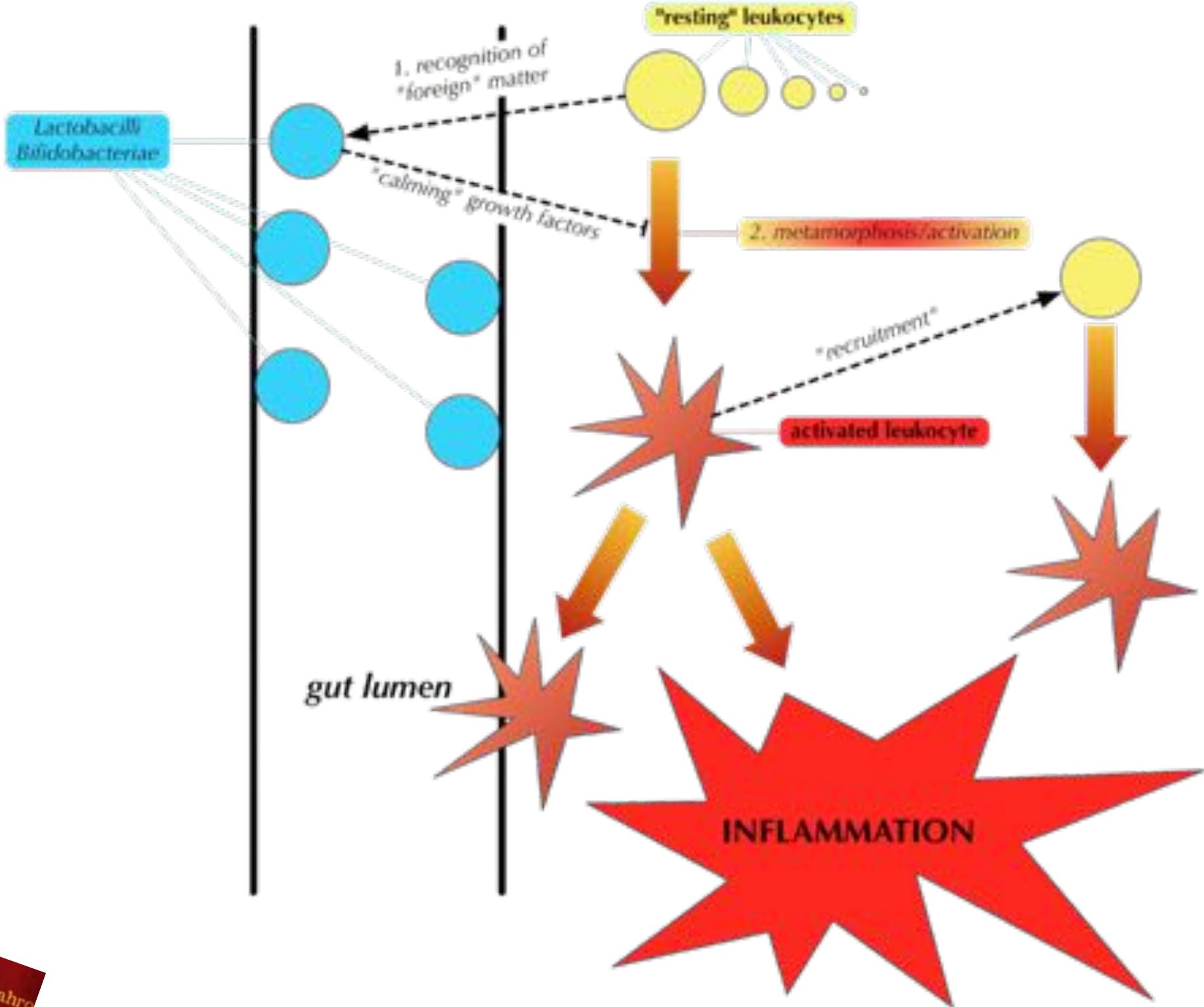


“Ubudne gæster”?













Orthobiose



Når en større organisme er koloniseret med talløse eksemplarer af en eller flere mikroorganismer og sidstnævnte ikke optræder på en måde der skader værtsorganismen, men derimod på en måde der er den til gavn...



Probiotika



Typer af probiotika

Lactobacillus arter

Bifidobacterium arter

Streptococcus arter

Enterococcus arter

Propionibacterium arter

Bacillus arter

“Gode” *E. coli*

Saccharomyces boulardii

Humanflora



Kilder til probiotika

Tilskud

“Jord i maden”

Fermenterede fødevarer

Fækaltransplantationer



Mad der indeholder gavnlige tarmbakterier

Fødevarer med jord på!

Yoghurt

Uden tilsat sukker

Gerne hjemmelavet

Andre syrnede
mejeriprodukter

Råmælk

Ost

Surkål og andre gærede
grøntsager

Kombucha

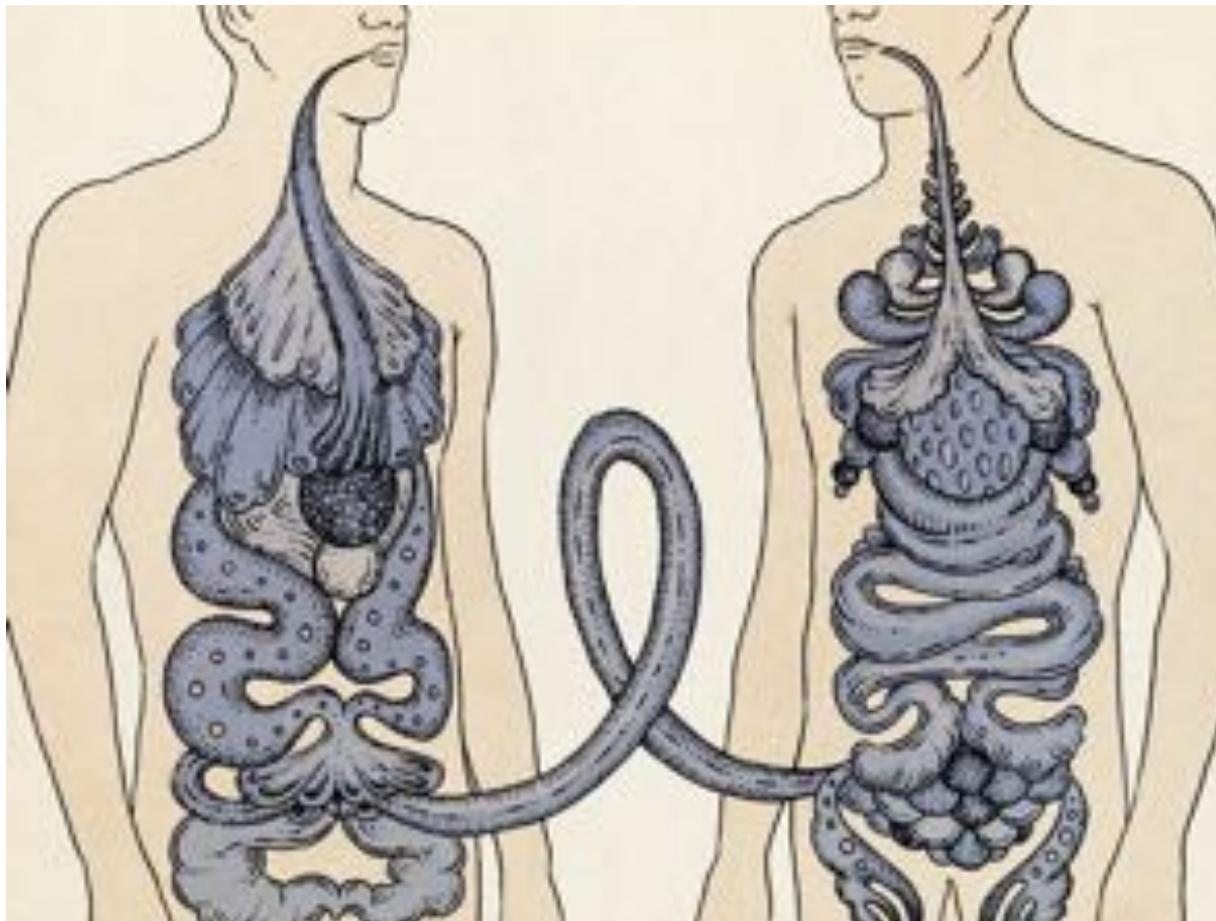
Kefir

Miso

Surdejsbrød



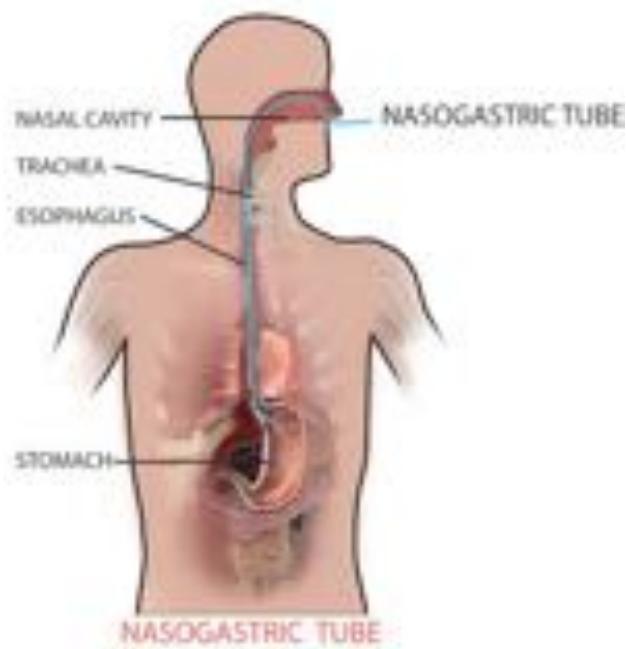
Fækaltransplantation

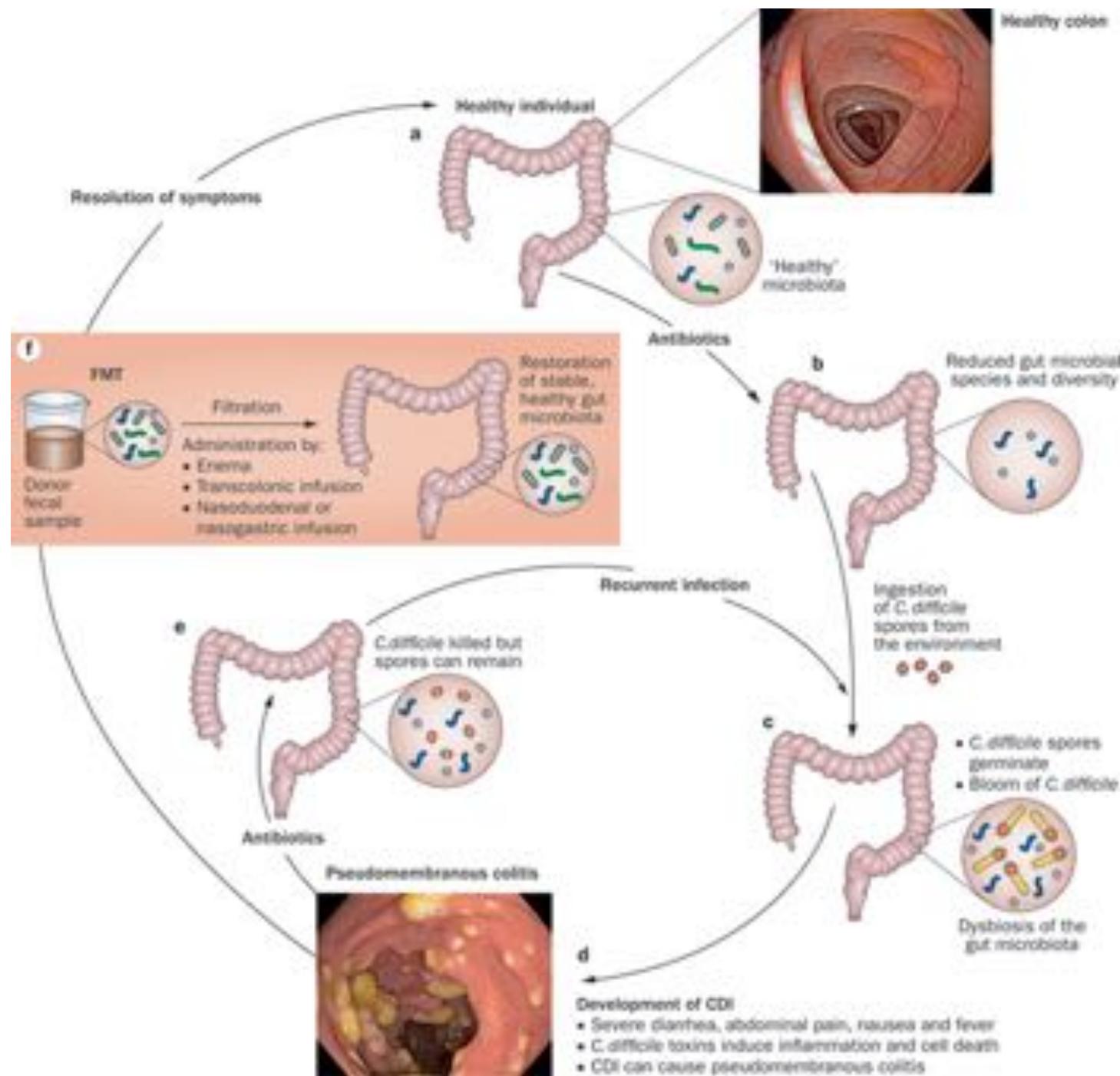


Fækaltransplantation



Fækaltransplantation





RePoopulate



Praebiotika

Præbio-hvad-for-noget?

Næringsstoffer der spises af de gavnlige tarmbakterier

Fibre, resistent stivelse, mælkesukker

Kan også ende som foder for fjenden!



Præbiotiske fødevarer

Fuldkorn	Jordskokker og andre rodfrugter
Bælgfrugter	Grønne blade
Bær	Råmælk
Bananer og plantains	Hørfrø
Kartofler (især afkølede)	Honning
Ris (især afkølet)	Frugter
Mandler	Baobab
Kakao	<i>Aloe vera</i>
<i>Allium</i> familien	<i>Ginseng</i> o.a. adaptogener
<i>Brassicaceae</i> familien	



FODMAPS

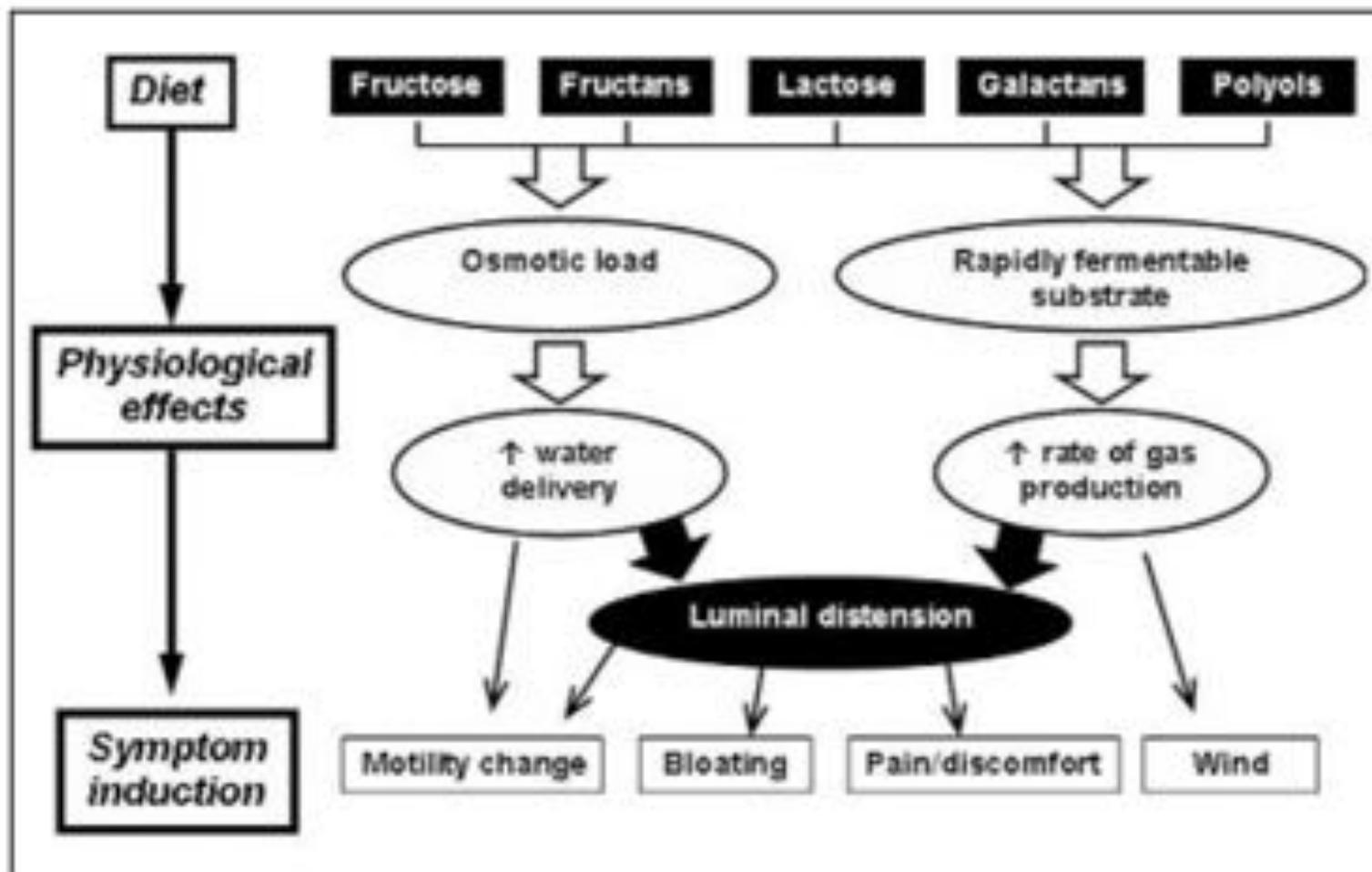
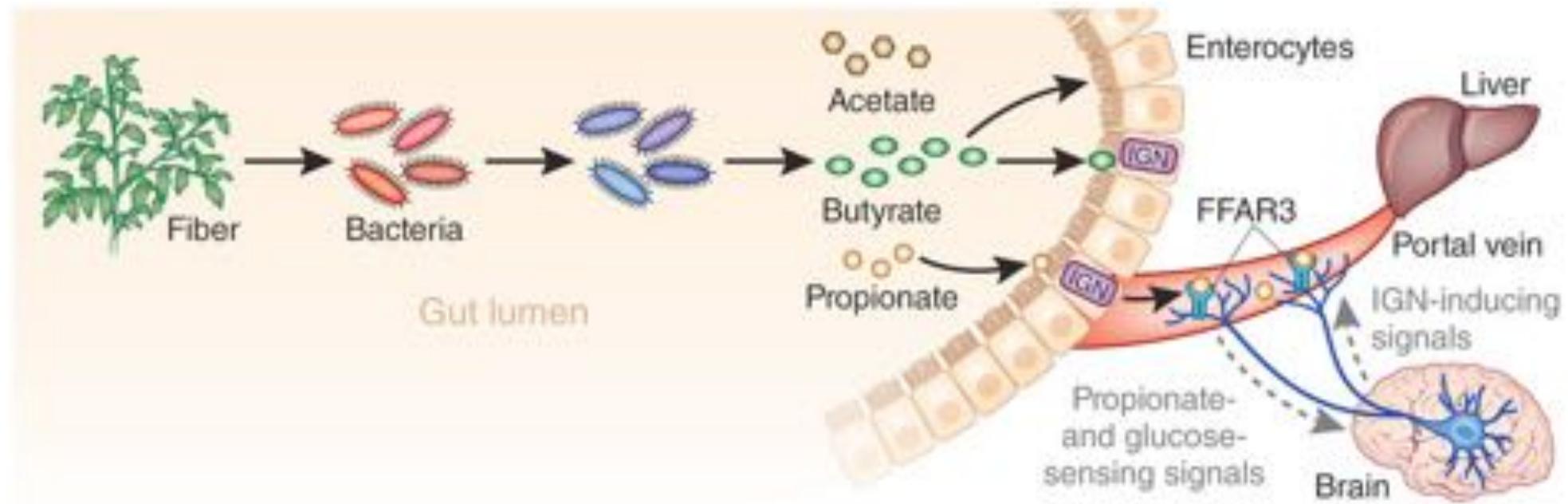


Figure 1. The theoretical basis for the relationship between FODMAPs and the genesis of functional gut symptoms.

Kortkædede fedtsyrer



Godt eller dårligt?

Acetat (eddikesyre) er syrlig ... for meget giver svær irritation

Butyrat er den primære energikilde for colonocytterne (overfladecellerne i tyktarmen)

Propionat optages og kan påvirker hjernen og energiproduktion hvis der produceres for meget





Dysbiose



Når en værtsorganisme er koloniseret med talløse eksemplarer af en eller flere mikroorganismer der på kort eller længere sigt skader værtsorganismen fordi de optræder aggressivt

Typer af dysbiose

Infektioner med patogene mikrober

“Spis i dag og skid blod i morgen”

Unormale mikrober

Øget inflammation og immunologiske krydsreaktioner

“Forkert sted på det forkerte tidspunkt”



Øget inflammation

“Ubudne gæster”?

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“Ubudne gæster”?



“Ubudne gæster”?

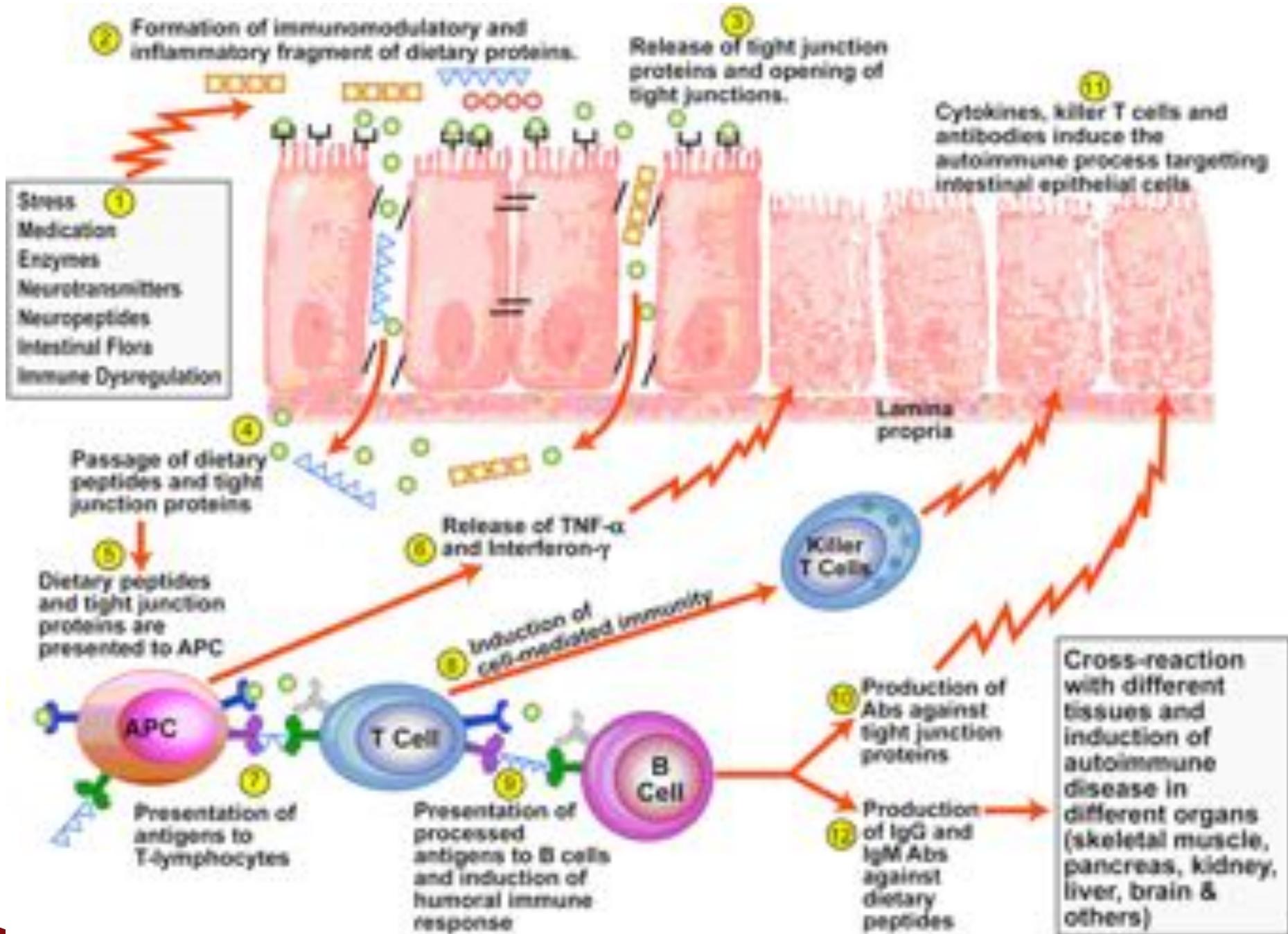


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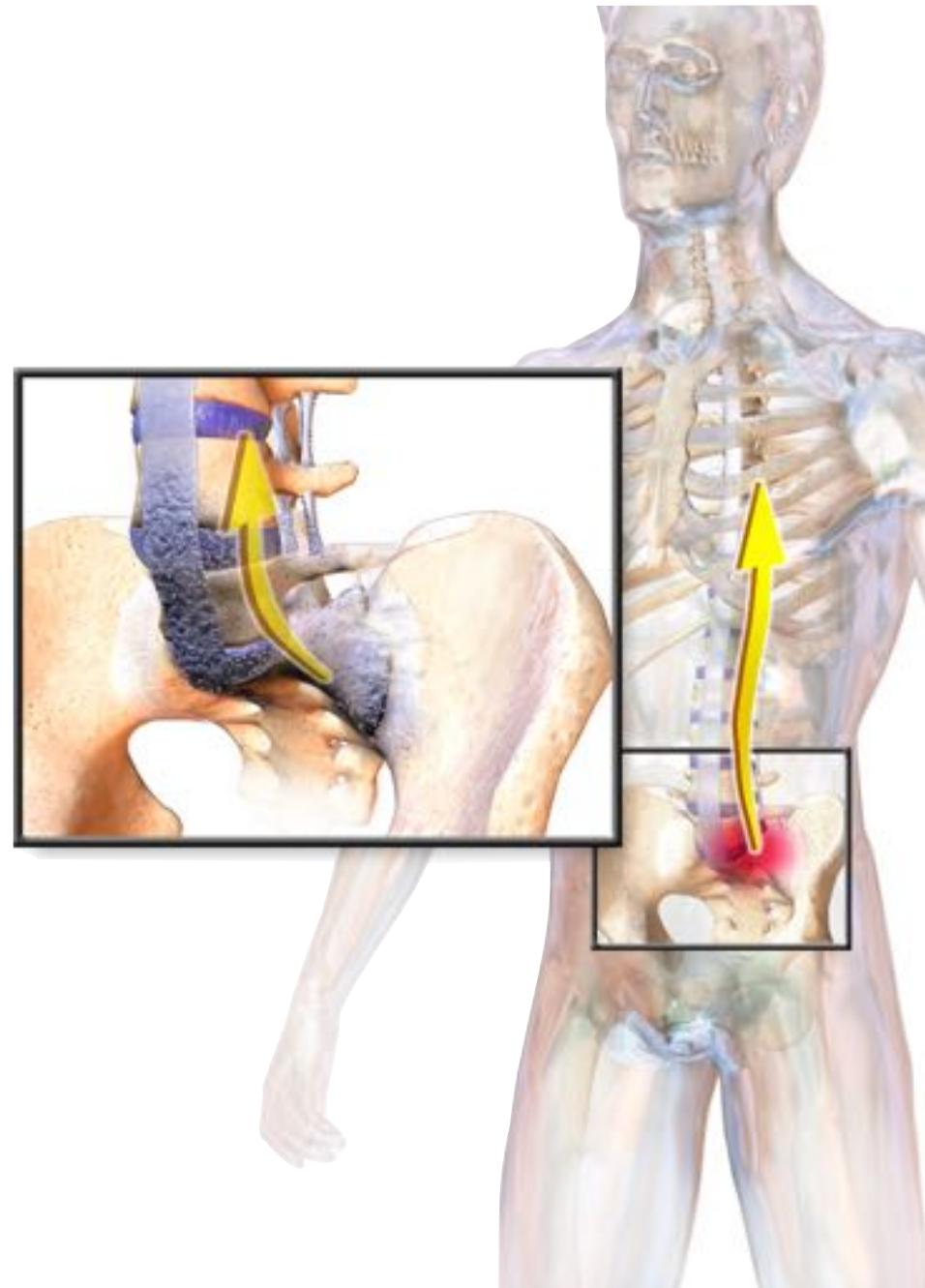


“Ubudne gæster”?





morbus Bechtrew



Krydsreaktioner p.g.a. Klebsiella ved HLA-27B

KLEBSIELLA PNEUMONIAE		
Nitrogenase Reductase	Pullulanase	
Glu-Thr-Asp-Arg-Glu-Asp	Pul-D	Pul-A
Q T D R E D	D R D E	G x P
Q T D R E D	D R E D	G x P
Glu-Thr-Asp-Arg-Glu-Asp	Asp-Arg-Glu-Asp	Gly-x-Pro
HLA-B27		Collagen types I, III, and IV
SELF-ANTIGENS		

Hvad ellers?

Ledegigt

Reaktiv gigt

Lupus

Hashimotos

Type I diabetes?



Overvækst af mikrober i mavesækken og tyndtarmen

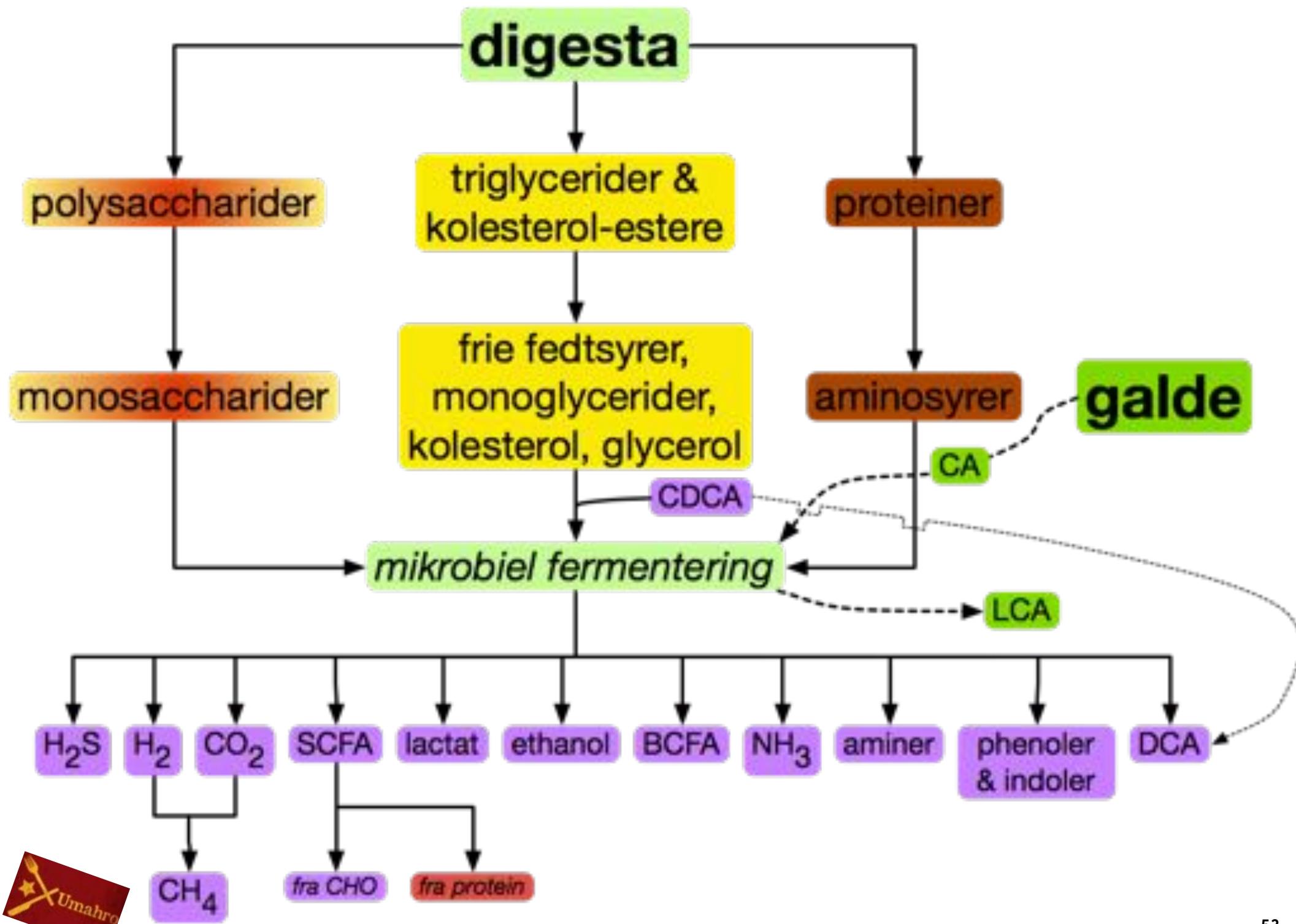


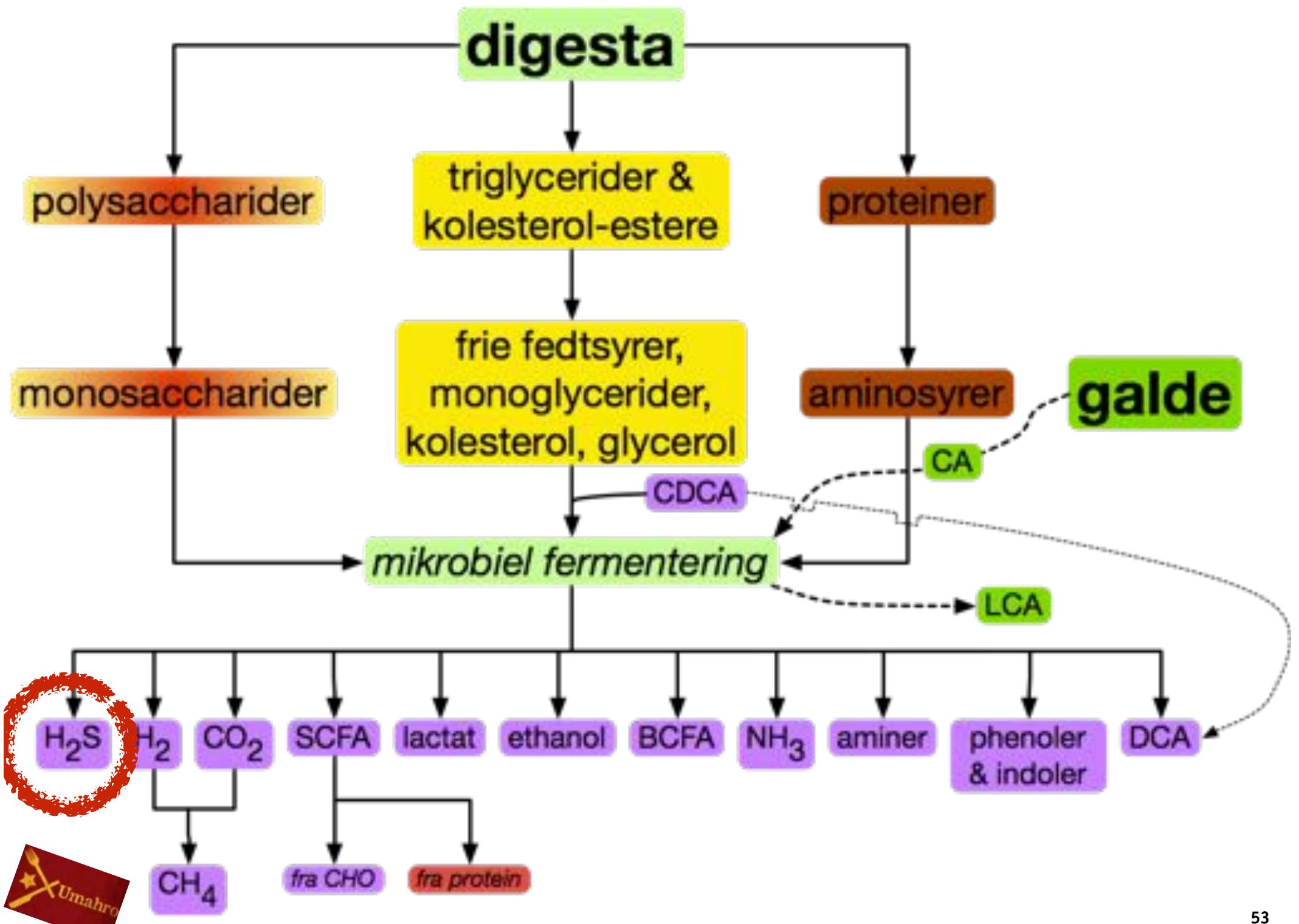
AFTER DINNER

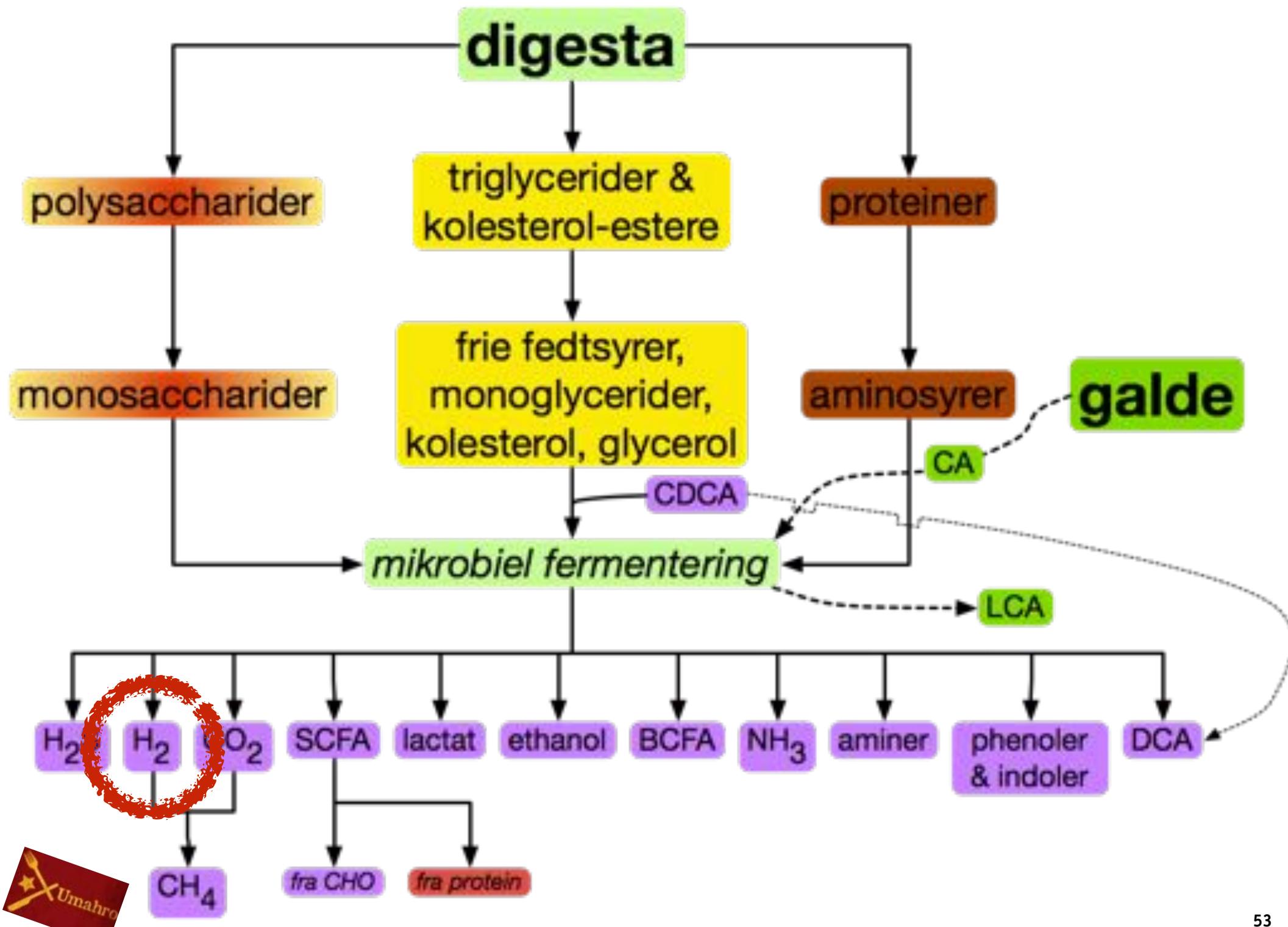
NEXT MORNING

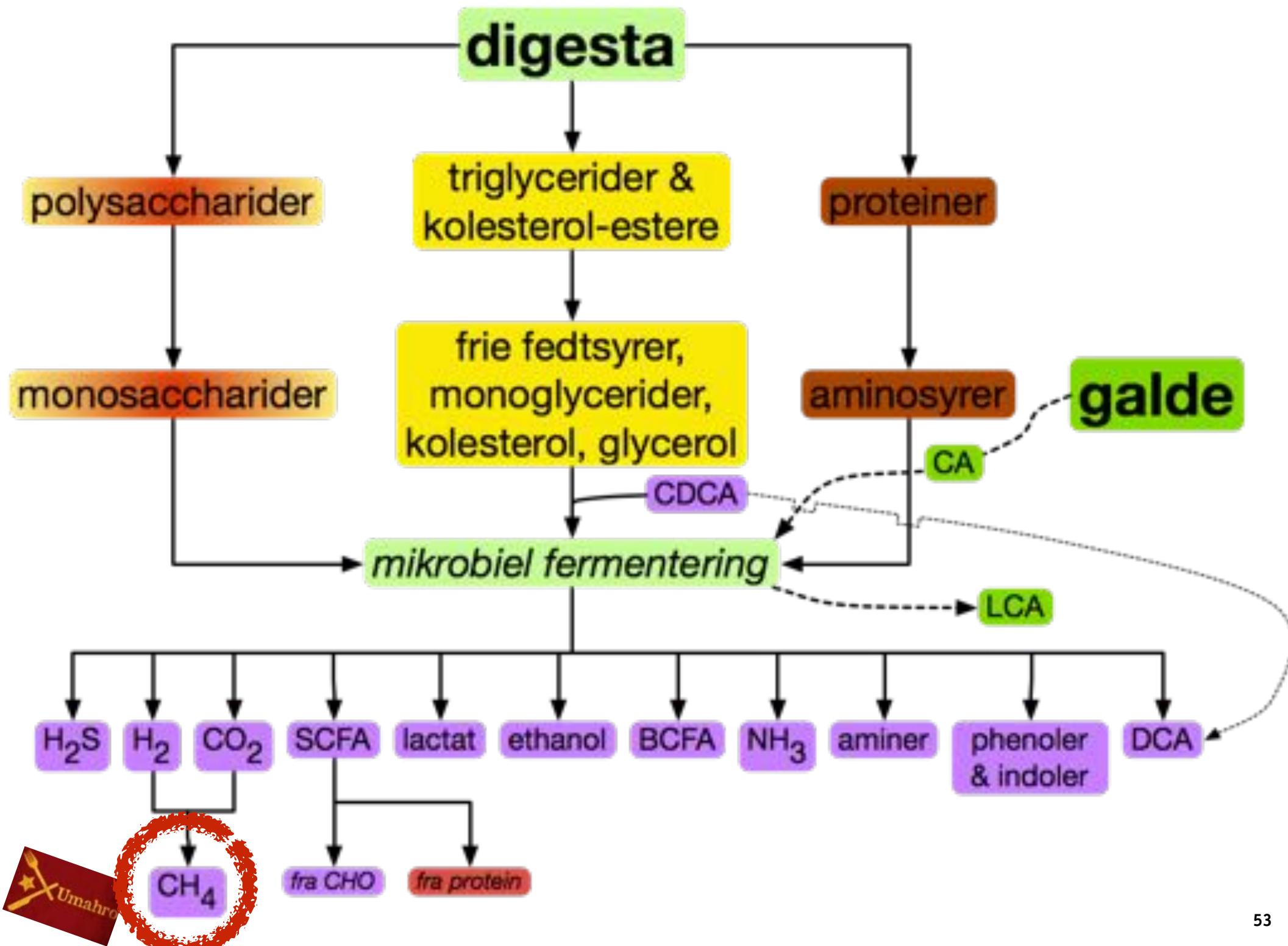
Den store kemiske fabrik

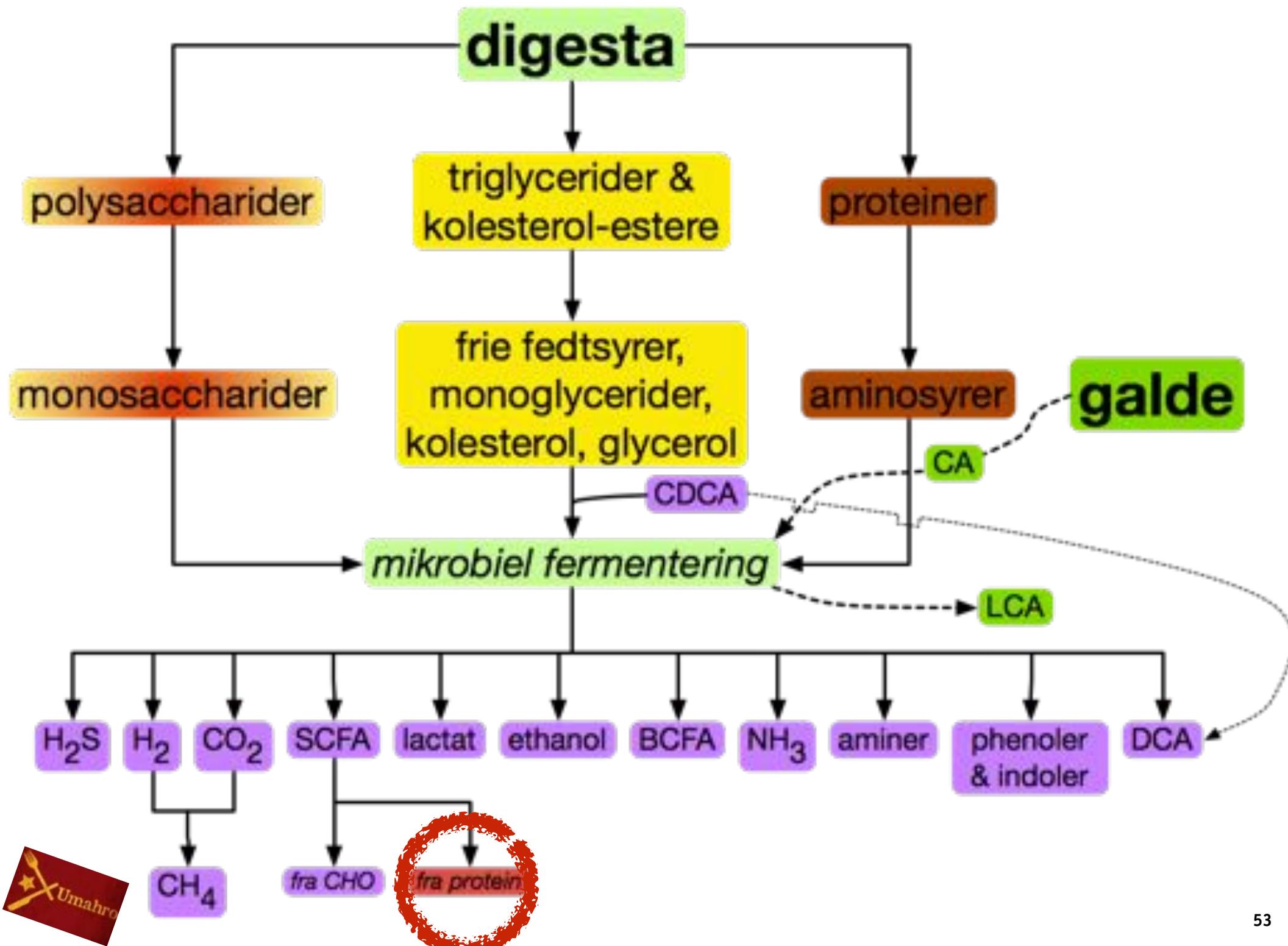
Hvad laver din tarmflora?

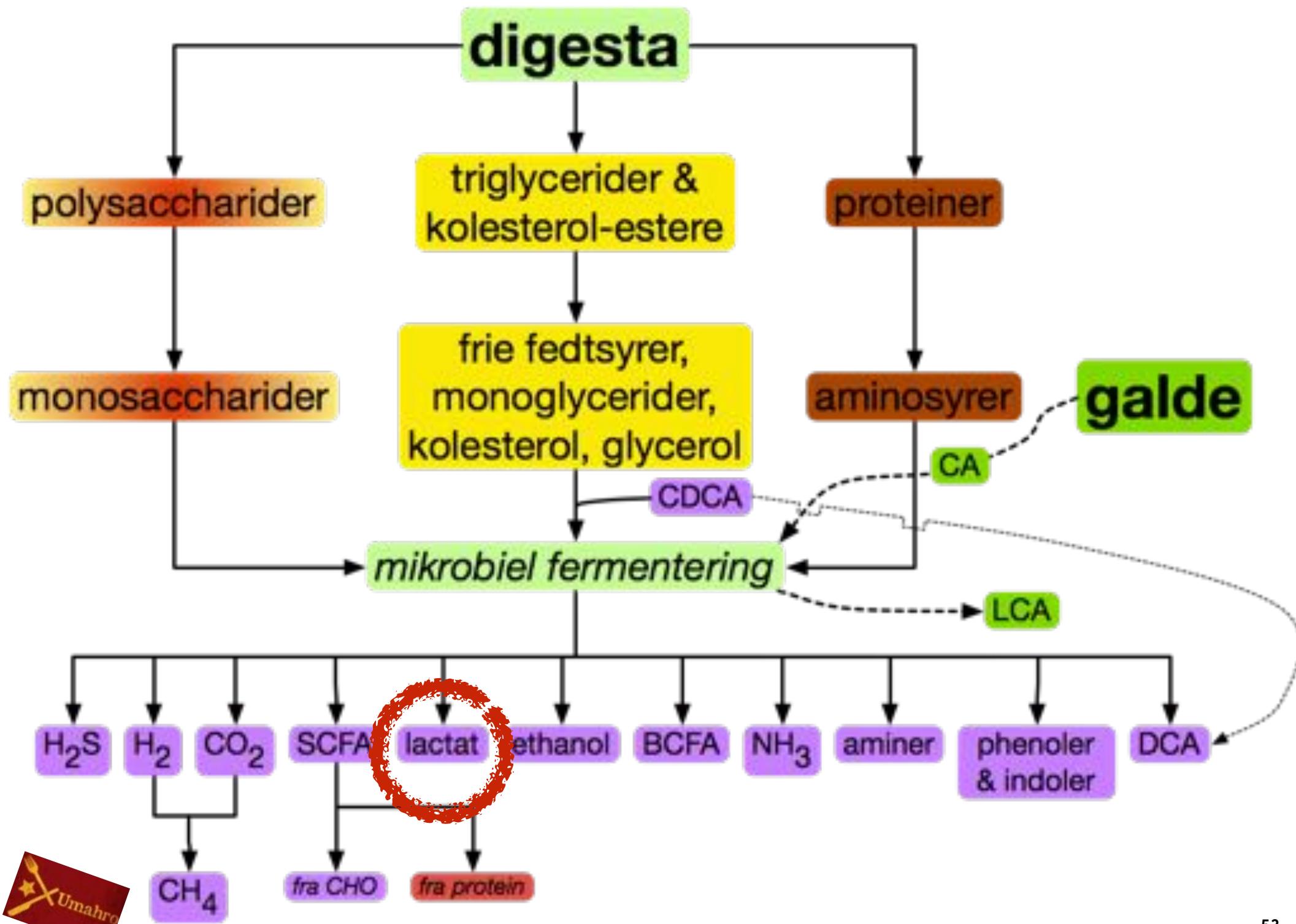


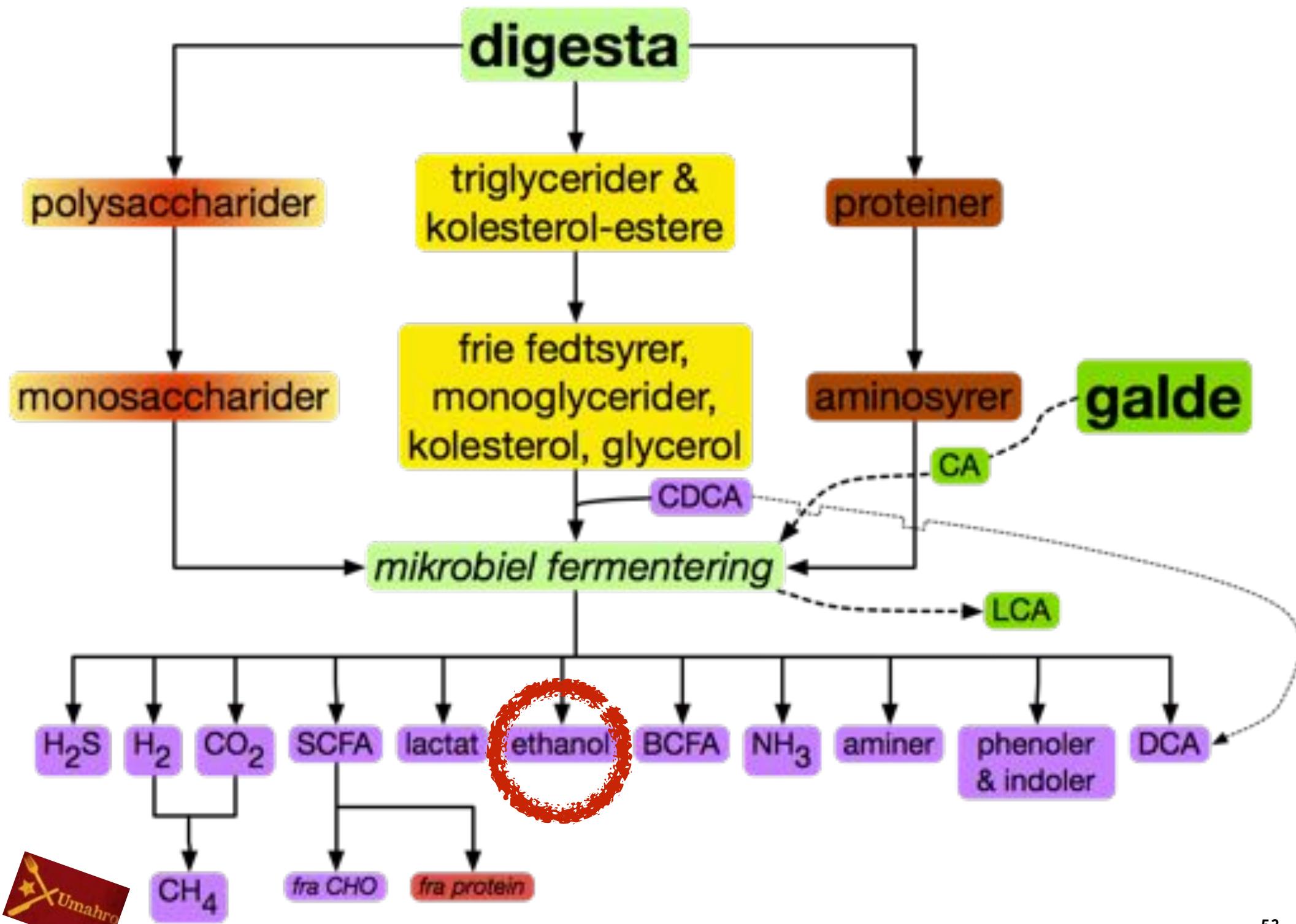


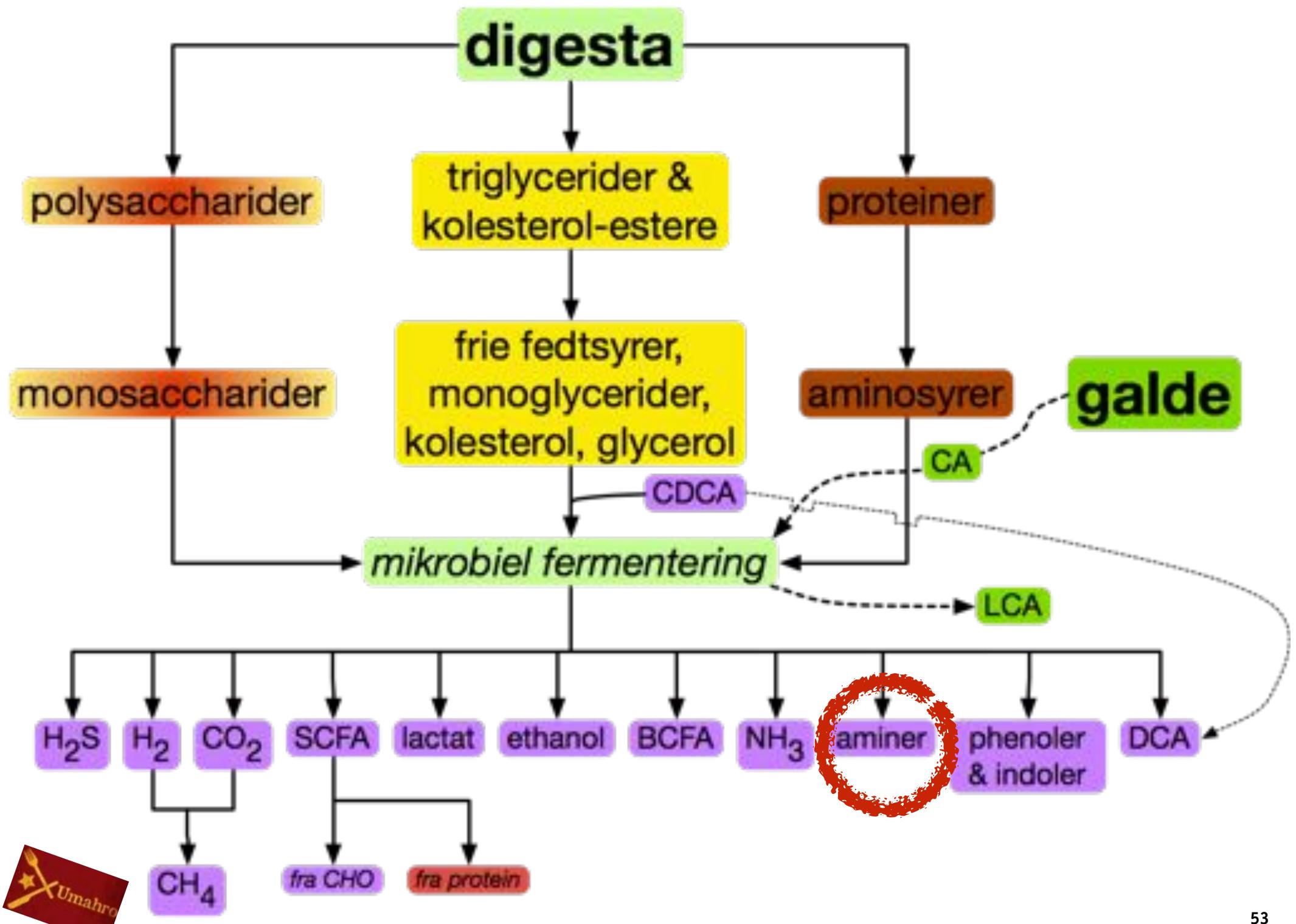


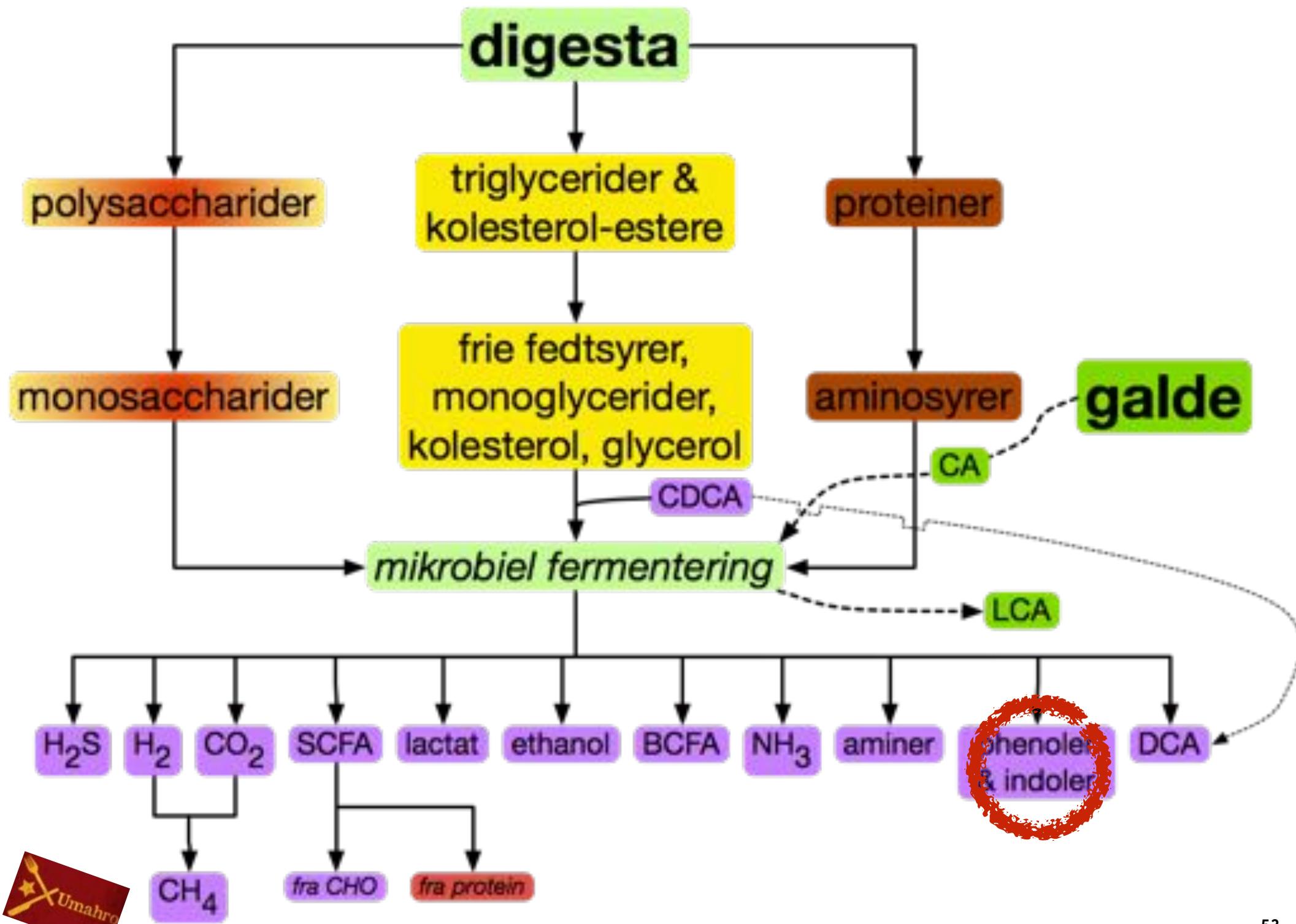


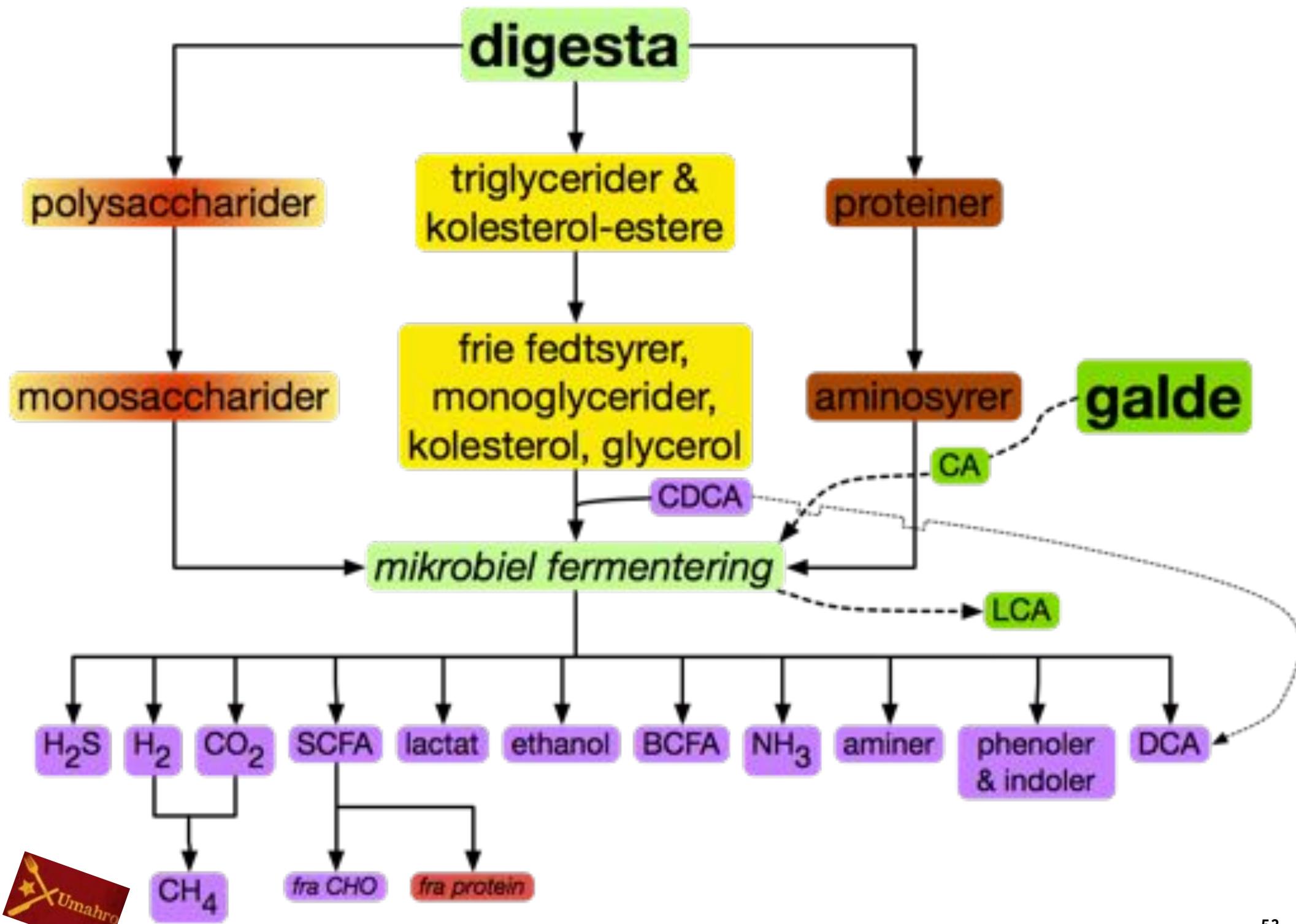


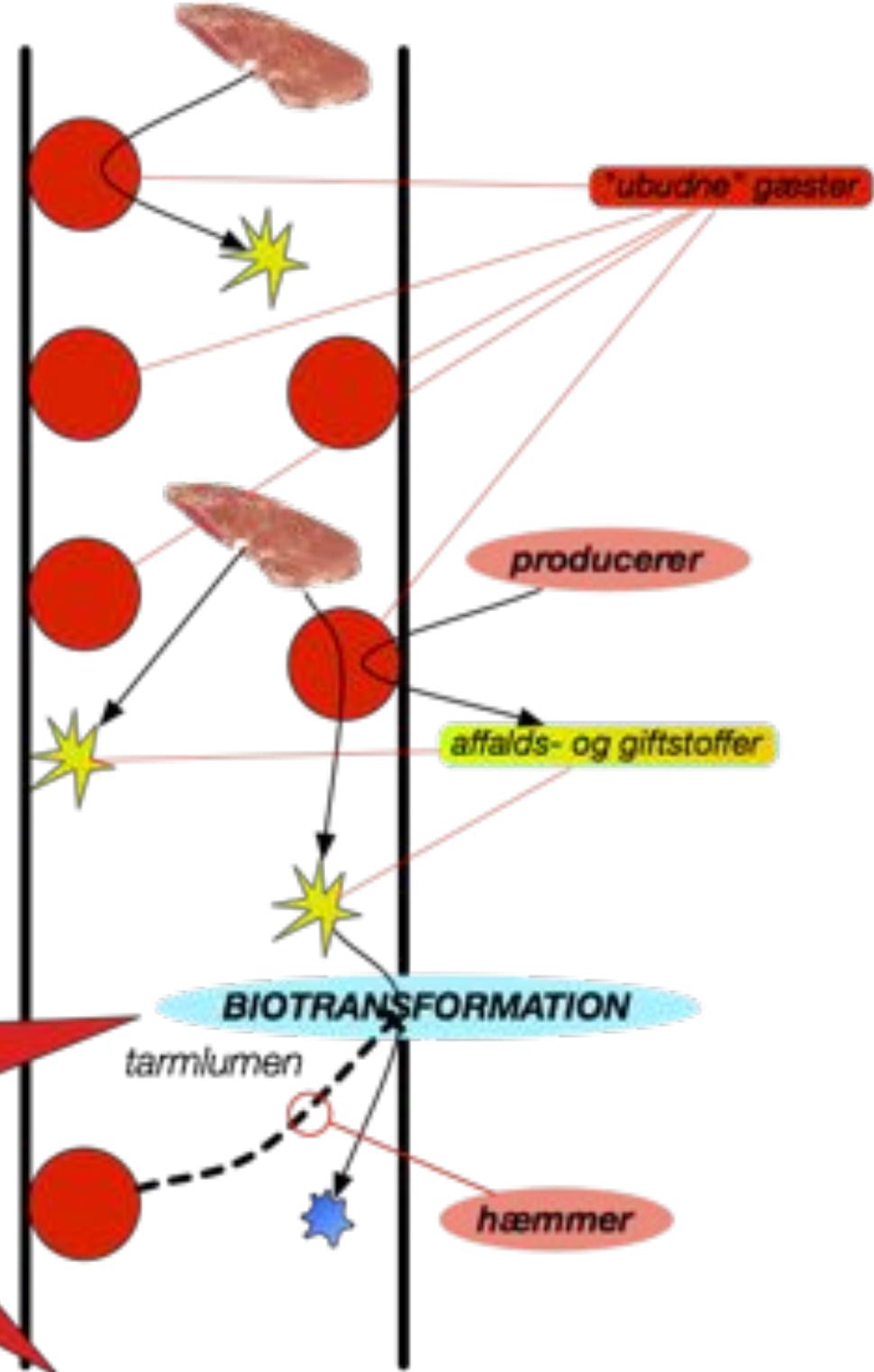
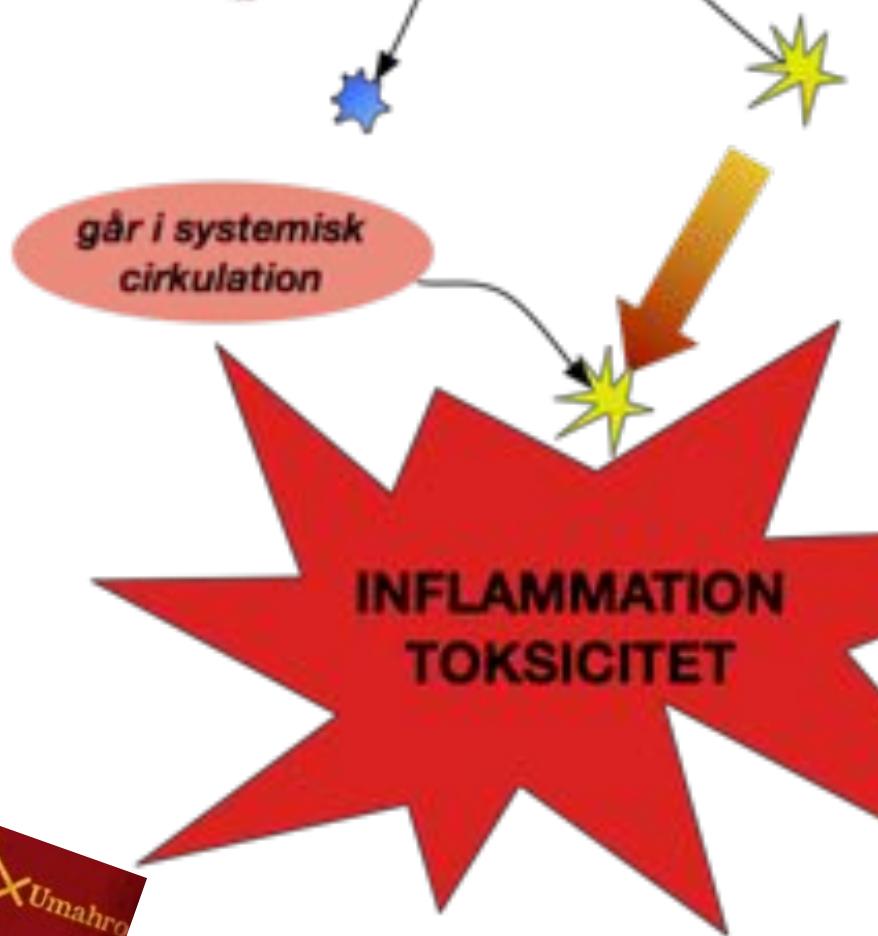
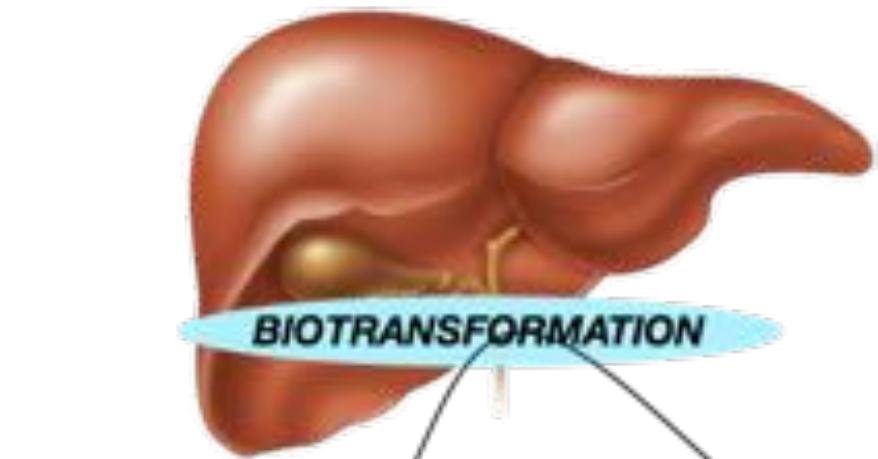


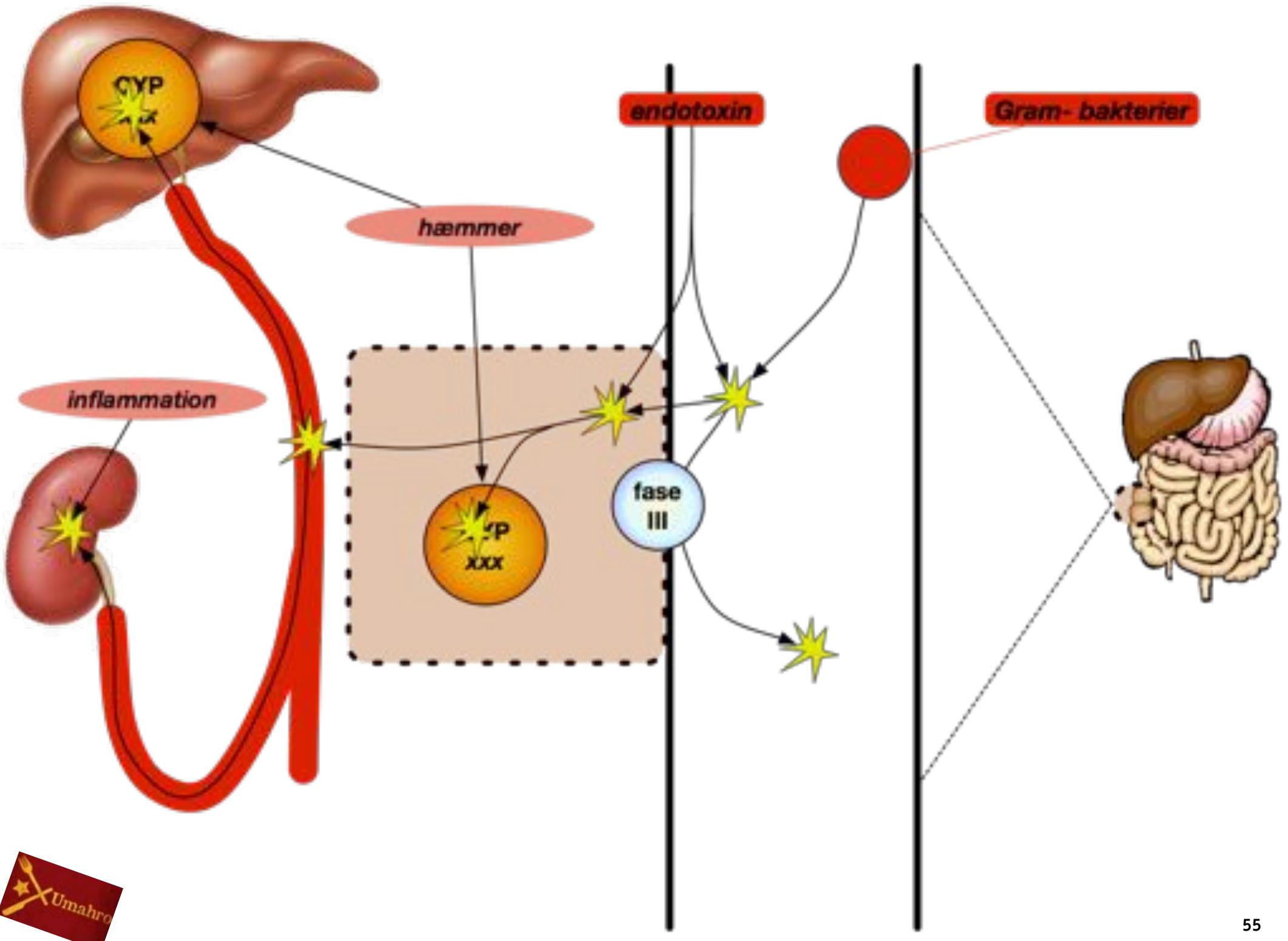












Den anden hjerne

Den a



“Psykobiotika”

“... we define a psychobiotic as a live organism that, when ingested in adequate amounts, produces a health benefit in patients suffering from psychiatric illness. As a class of probiotic, these bacteria are capable of producing and delivering neuroactive substances such as gamma-aminobutyric acid and serotonin, which act on the brain-gut axis. Preclinical evaluation in rodents suggests that certain psychobiotics possess antidepressant or anxiolytic activity. Effects may be mediated via the vagus nerve, spinal cord, or neuroendocrine systems. So far, psychobiotics have been most extensively studied in a liaison psychiatric setting in patients with irritable bowel syndrome, where positive benefits have been reported for a number of organisms including *Bifidobacterium infantis*. Evidence is emerging of benefits in alleviating symptoms of depression and in chronic fatigue syndrome. Such benefits may be related to the anti- inflammatory actions of certain psychobiotics and a capacity to reduce hypothalamic-pituitary-adrenal axis activity ...”

T.G. Dinan et al. Psychobiotics: A Novel Class of Psychotropic. BIOL PSYCHIATRY 2013;74:720–726. <http://dx.doi.org/10.1016/j.biopsych.2013.05.001>

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The Brain in Your Gut

The gut's brain, known as the enteric nervous system, is located in sheets of tissue lining the esophagus, stomach, small intestine and colon.

SMALL INTESTINE CROSS SECTION

Submucosal plexus —

Layer contains sensory cells that communicate with the myenteric plexus and motor fibers that stimulate the secretion of fluids into the lumen.

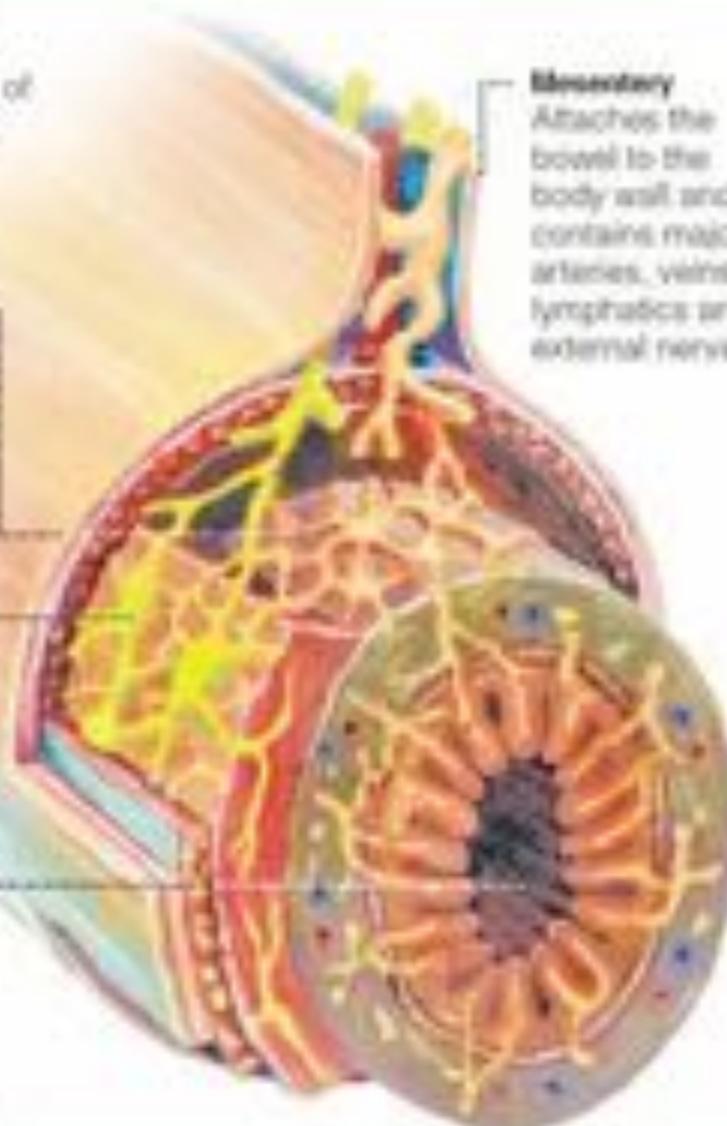
Myenteric plexus —

Layer contains the neurons responsible for regulating the enzyme output of adjacent organs.

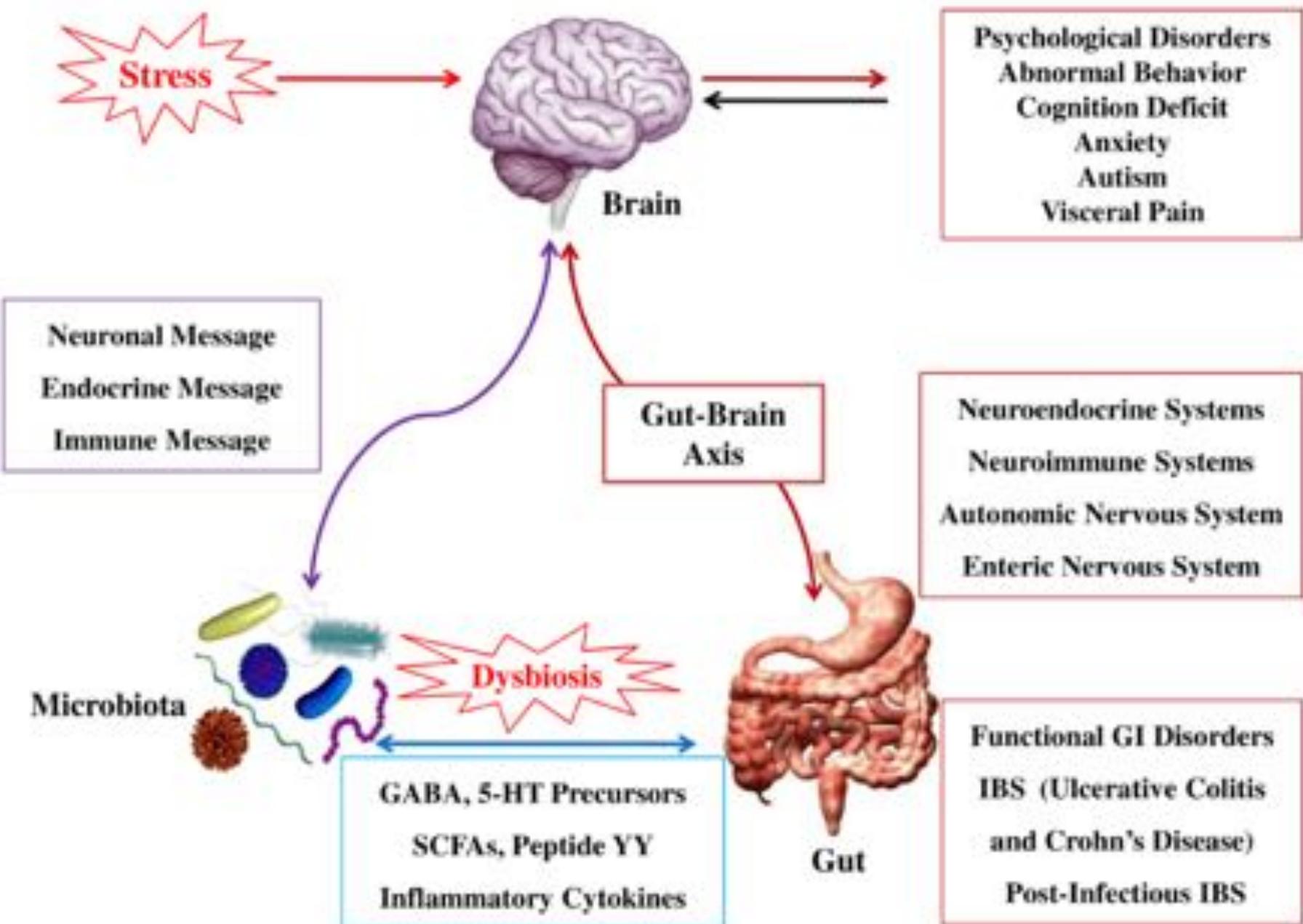
Lumen —

No nerves actually enter this area, where digestion occurs. The brains in the head and gut have no frontier conditions in the lumen across the lining of the bowel.

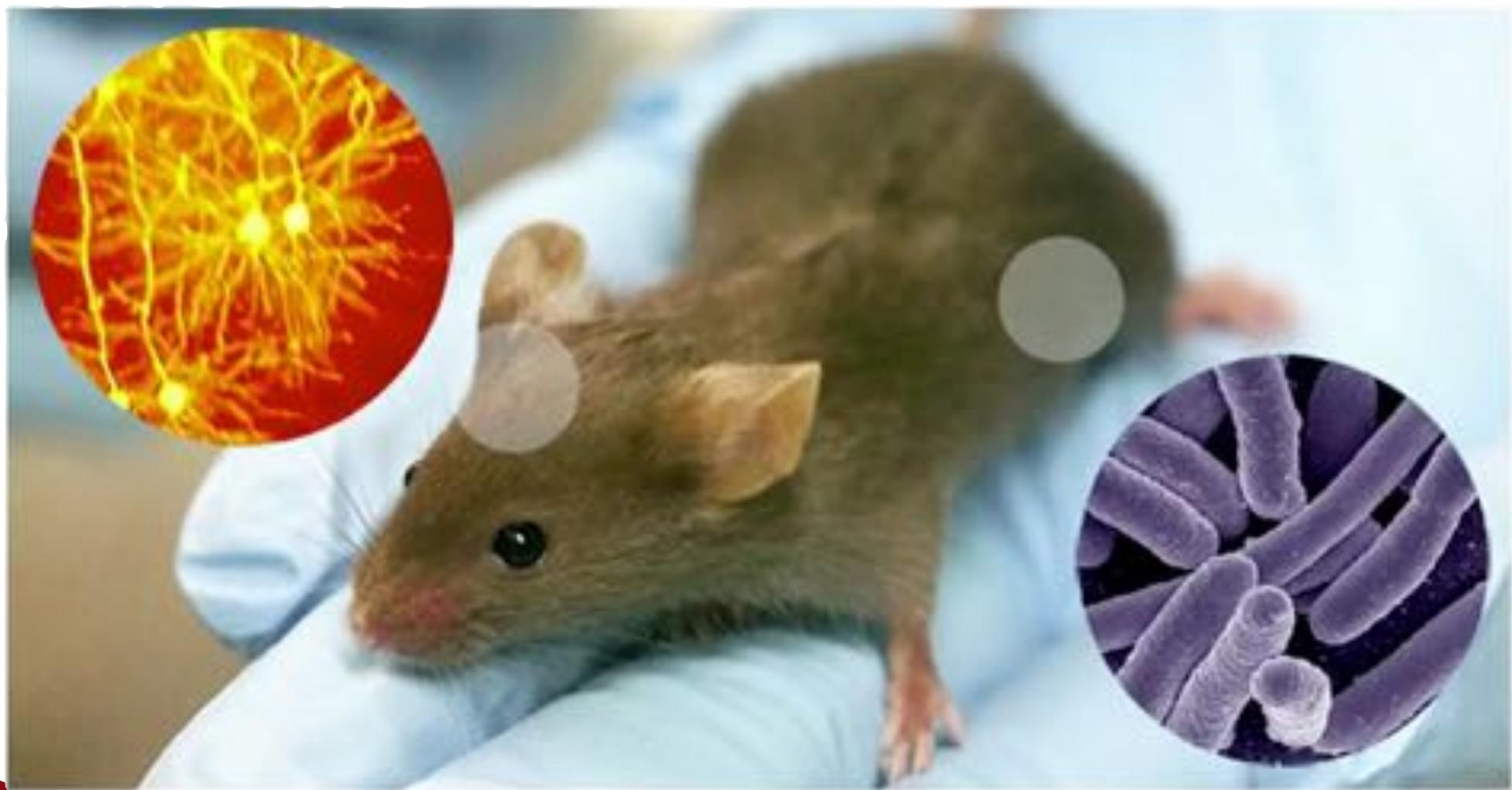
Mesentery
Attaches the bowel to the body wall and contains major arteries, veins, lymphatics and external nerves.



Source: Dr Michael D Glanzman, Columbia University

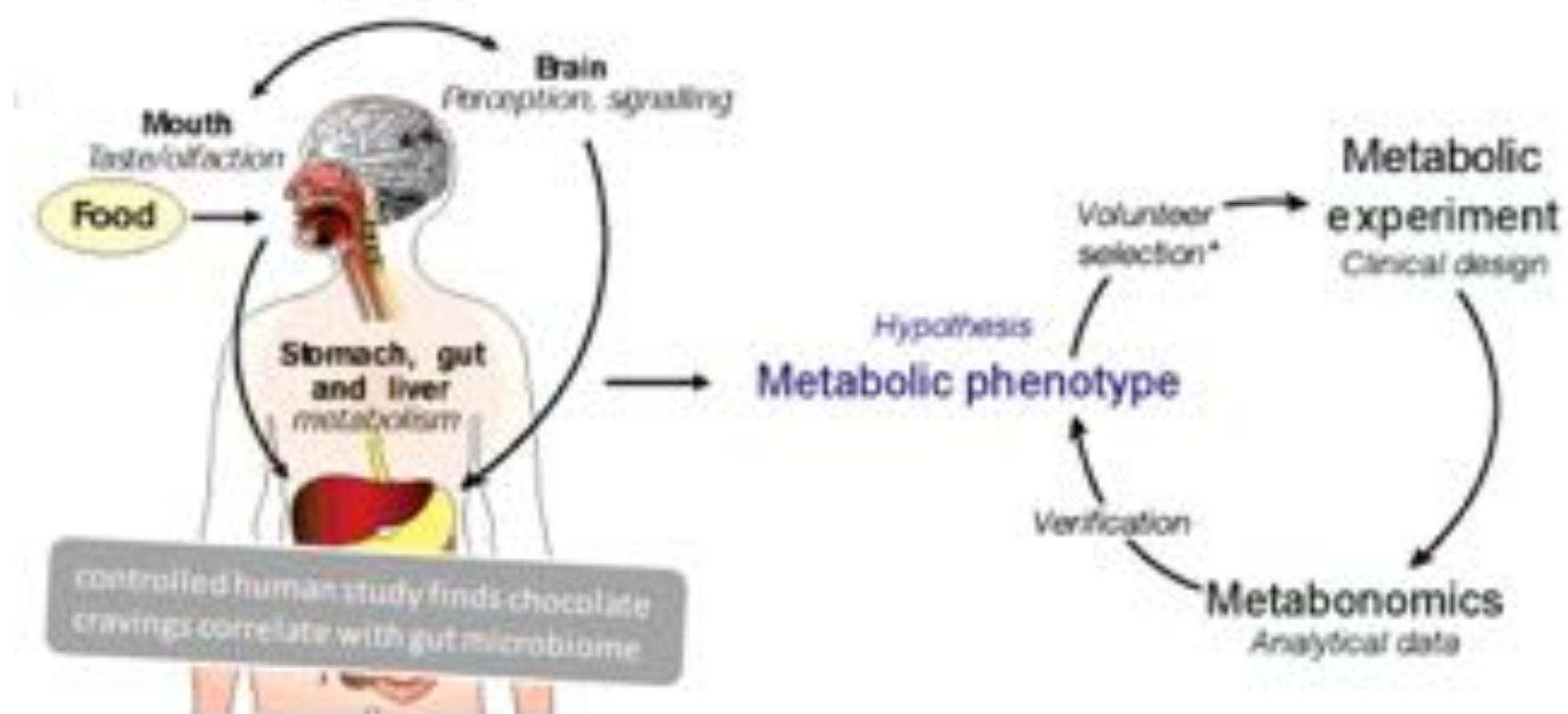


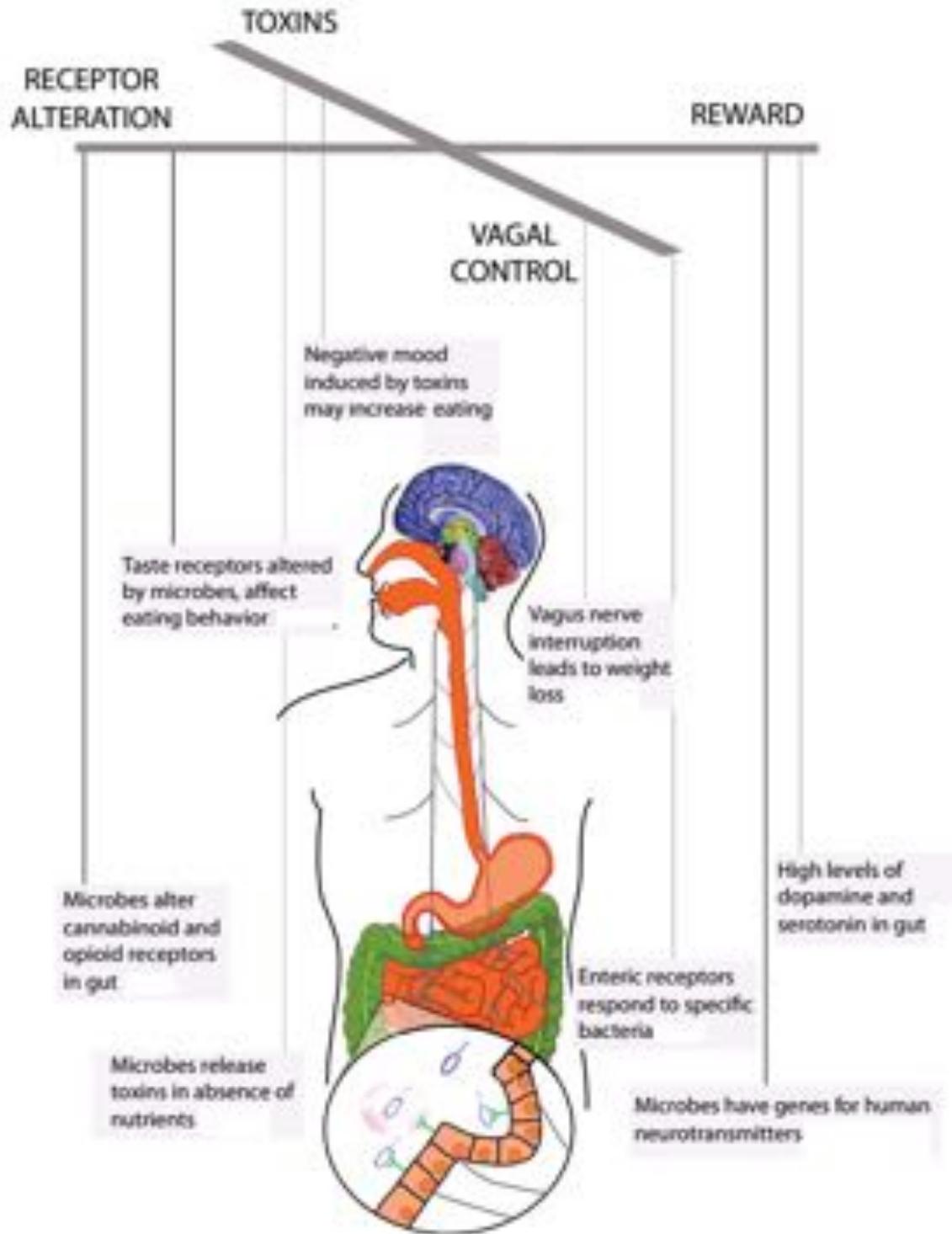
Tarmflora påvirker neurologisk/mental udvikling



Mind-Altering Microbes: How The Microbiome Affects Brain and Behaviour. Elaine Hsiao @TEDxCaltech

Påvirker tarmfloraen hvad
du har lyst til at spise?





Hvem fremmer hvad?

Firmicutes har det bedst med masser af præbiotika

Bacteroidetes trives bedst med meget fedt



Velfærdssygdomme

Link mellem tarmflora og velfærdssygdomme

Overvægt

Type II diabetes og insulinresistens

Forhøjet blodtryk

Skæve kolesteroltal



Cøliaki



Vil du gerne have mere
af den slags viden?

Sundhedsrevolutionær uddannelsen



Sundhedsrevolutionær hold 11

Startdato: mandag d. 29. februar

3 niveauer:

Hjælp til selvhjælp...bliv din egen sundhedsekspert

Rådgiver...for dig der inspirerer andre til sundhed

Behandler...for dig der behandler andre

14 måneder til du er din egen sundhedsekspert

Kombineret online undervisning, online materiale og
interaktion alt efter hvilket niveau du er med på



Mere viden

Book tid til en personlig samtale om uddannelsen/forløbet er noget for dig. Kontakt Maria på 31329770 eller hello@umahro.com

Tilmeld dig nyhedsbrevet for Sundhedsrevolutionær hold 11: <https://nutrimenta.simplero.com/page/49047-nyhedsbrevet-for-sundhedsrevolutionaer-hold-11>



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