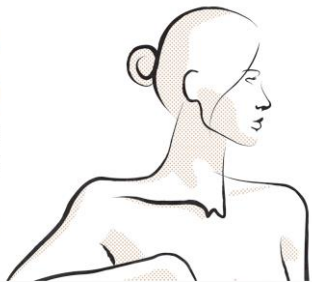


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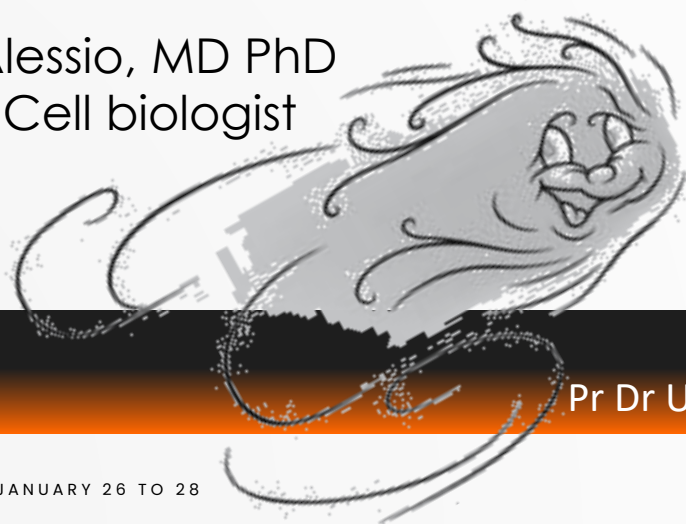
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*Come
& join us!*

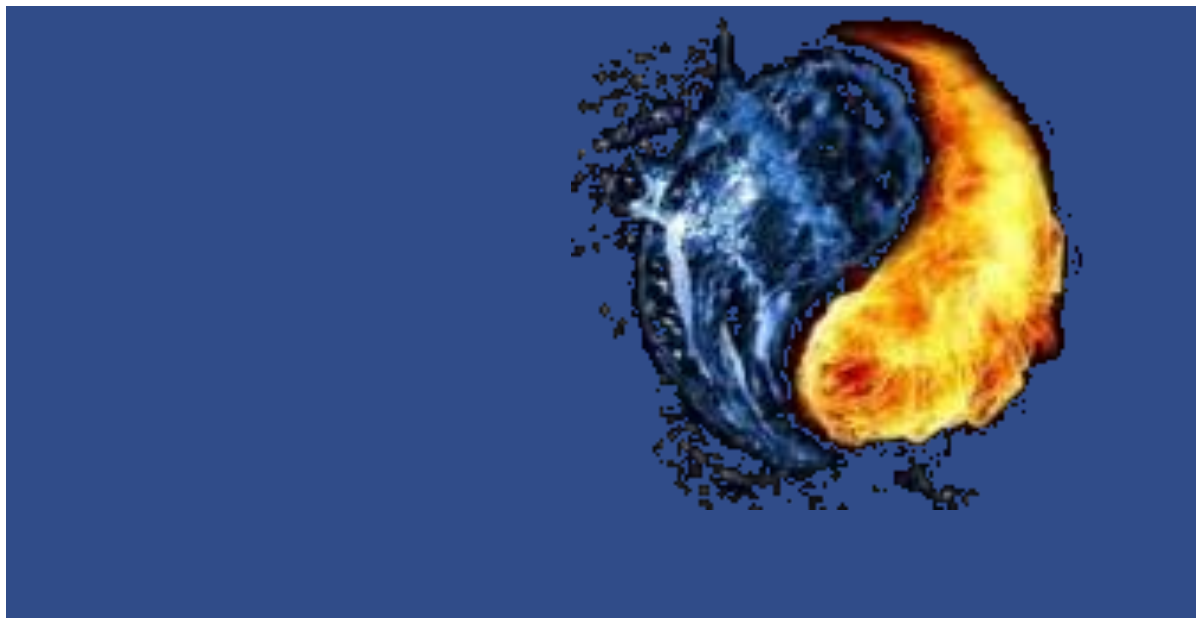


Nutraceuticals effect on aging skin

Pr Dr Patrizia A d'Alessio, MD PhD
Hematologist and Cell biologist



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Pr Dr University Paris Sud-11 and Genopole d'EVRY



No conflict of interest

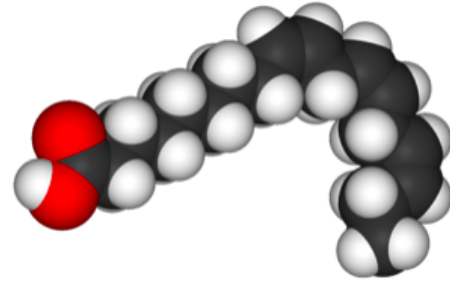
IMCAS What will we be talking about ?

Would something we eat,
digested by our intestine,
be able to embellish
our skin ?



Nutraceuticals

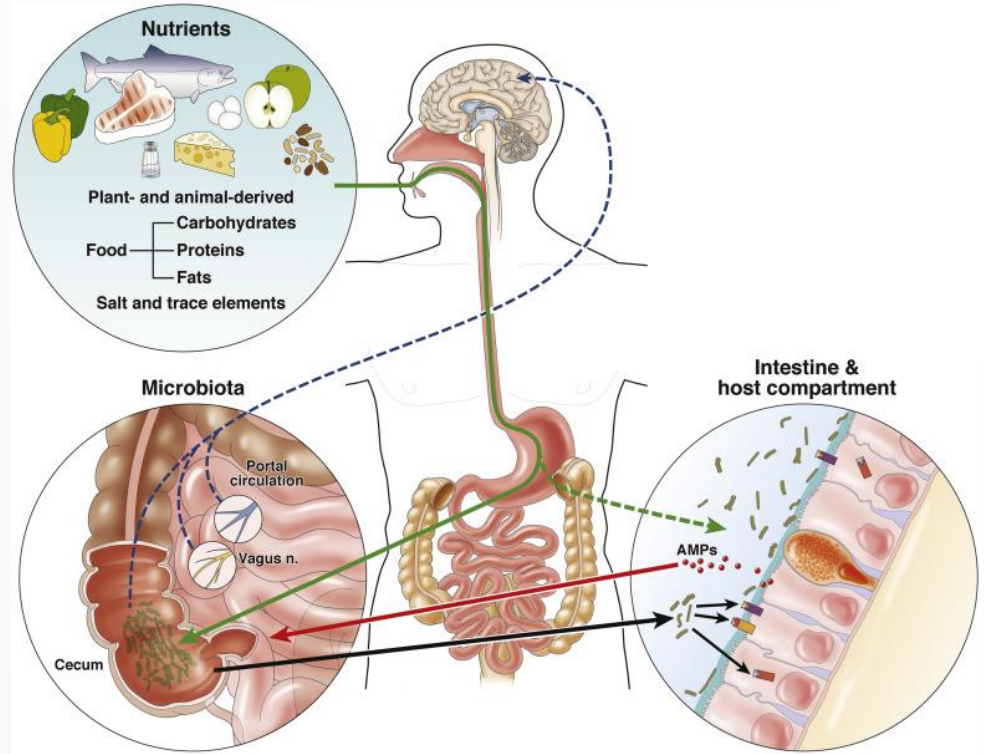
- The word “nutraceutical” is a “portmanteau” term, binding “nutrition” and “pharmaceutical”.
- A “nutraceutical” or “**bioceutical**” is a pharmaceutical alternative; claiming physiological benefits;
- Unregulated, assimilating OTC, dietary supplements, food additives, under the authority of the FDA & Cosmetic Act.



***alpha*-Linolenic acid (ALA)**, also known as ***α*-Linolenic acid**, is an *n*-3, or omega-3, essential fatty acid. ALA is found in many seeds and oils, including flaxseed, walnuts, chia, hemp, and many common vegetable oils.

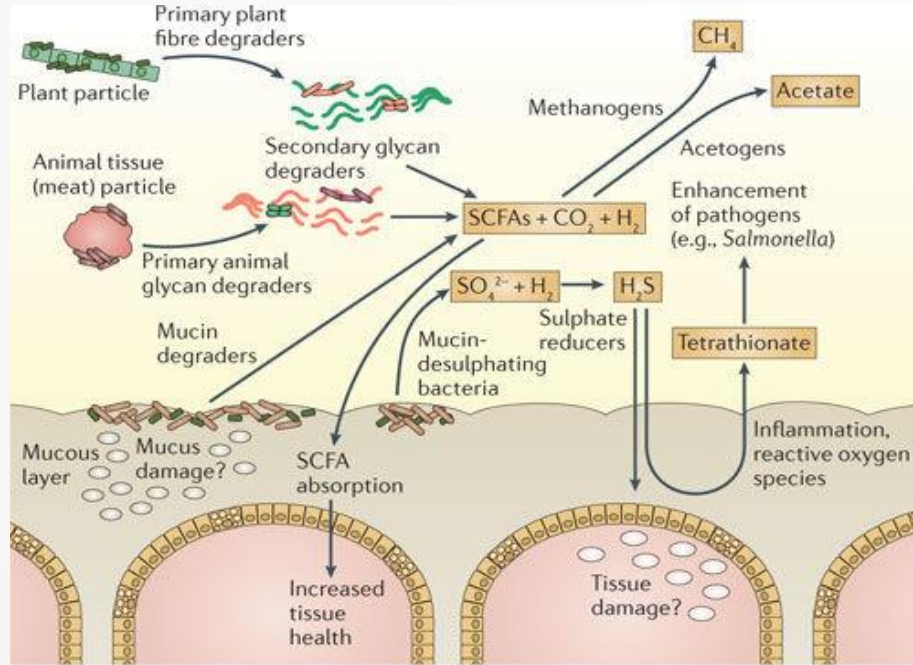
From the mouth to the gut...

Initiation of a dialogue between the intestine and the brain



What happens in the gut ?

Intestinal microbiota synthesize SCFA*

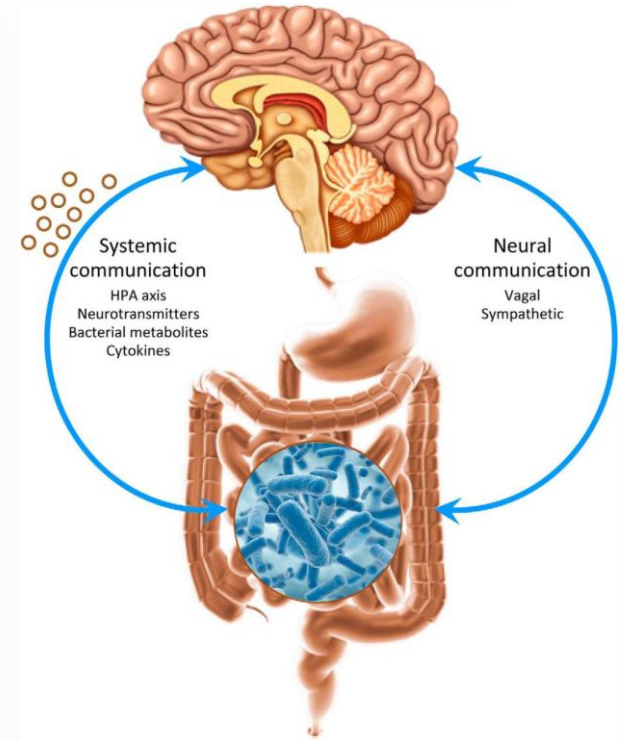


Butyrate, folates, propionate produced by:

- Bifidobacteria*
- Clostridii*
- Enterocaterium*
- Enterococcus*
- Ruminococcus*
- Roseburia*

* Short chain fatty acids

- ◆ There is a bi-directional communication among intestinal microbiota and the brain.
- ◆ Endocrine and neurocrine signaling, due to inflammation, is generated by the intestinal microbiota and specialized intestinal cells, and reaches the brain.
- ◆ Based on neuro-endocrine mechanisms, the brain can influence the composition and function of microbiota.
- ◆ Dopamine, leptin, adiponectin...are generated



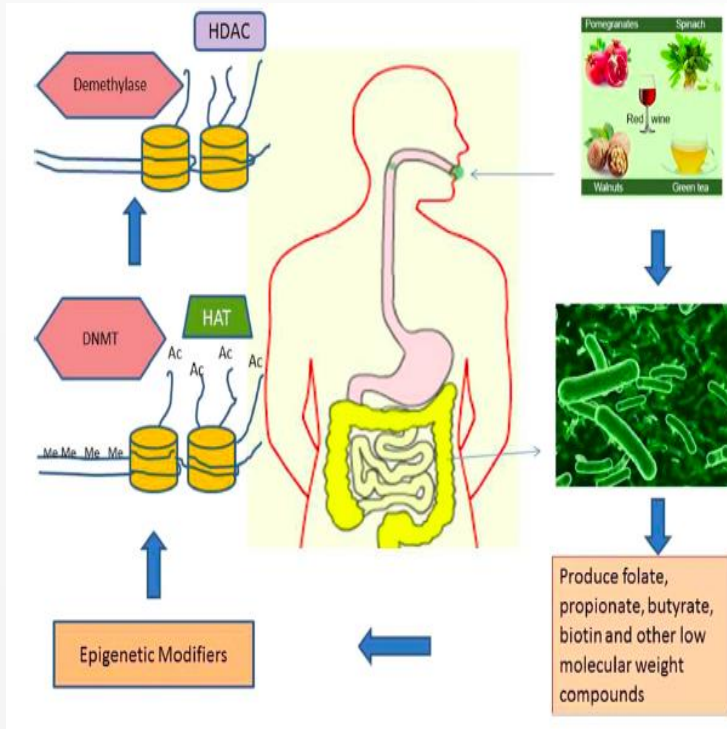
The gut-brain axis as driver of QoL & skin beauty

via microbe-microbe / microbe - host interactions



PRIME, July 2020, Vol. 10 Issue 4, 36-42

IMCAS Bacterial metabolism of the fibres impacts epigenetics



Acetate, **butyrate**, propionate (SCFA) and folates, produced following ingestion of phytochemicals are potent **epigenetic modifiers**.

The re-discovery of vegetarianism

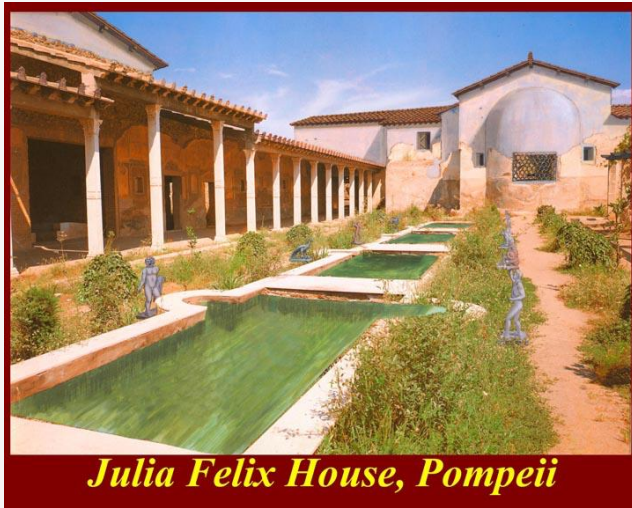


Dr George Cheyne
(1671-1743)

- ◆ Since the 17th century and during the 18th vegetarianism became a treatment for obesity and gout.
- ◆ But observation led to also consider it as a solution to delay **wrinkles and increase the brightness of the skin.**

IMCAS The first skin probiotic treatment

Roman poets Horace and Cato related about anti-aging masks prepared with young alligators (green) feces imported from Alexandria...
in the first anti-aging SPA of JULIA FELIX in POMPEII



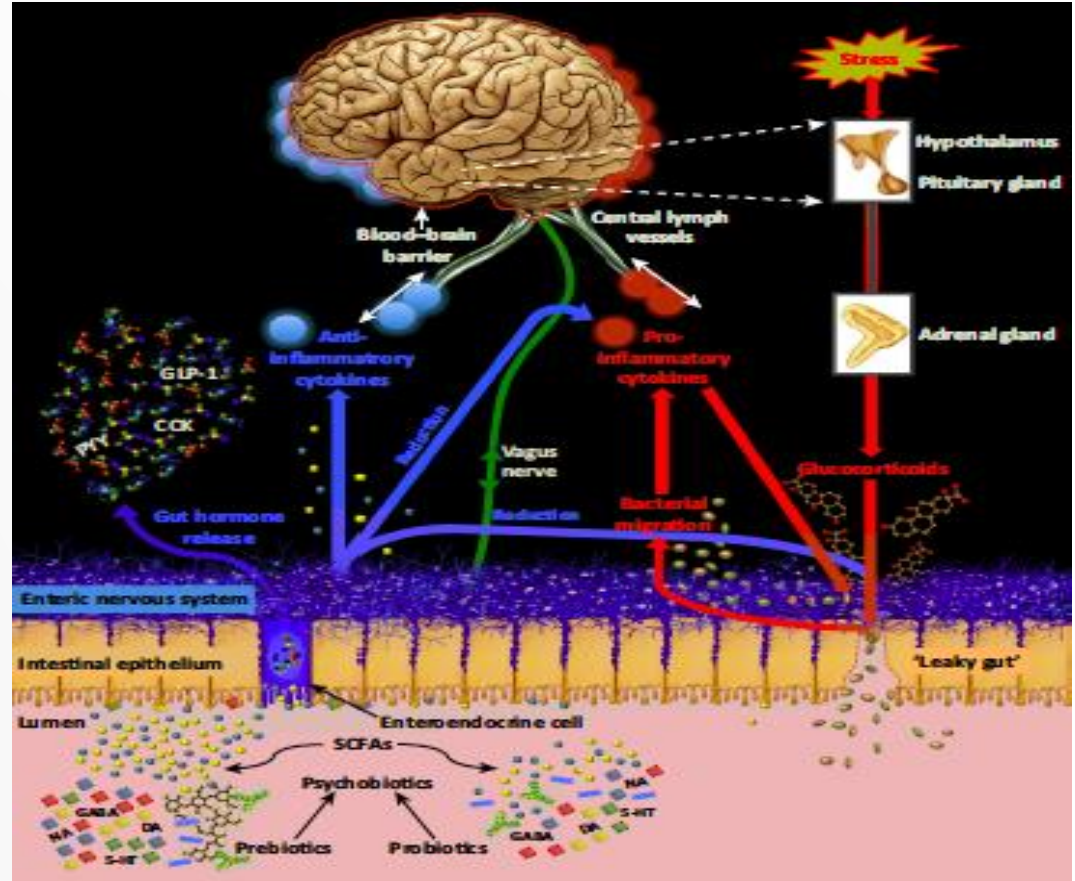
Psychobiotic effects

Pre-biotics

non digestible **fibers**

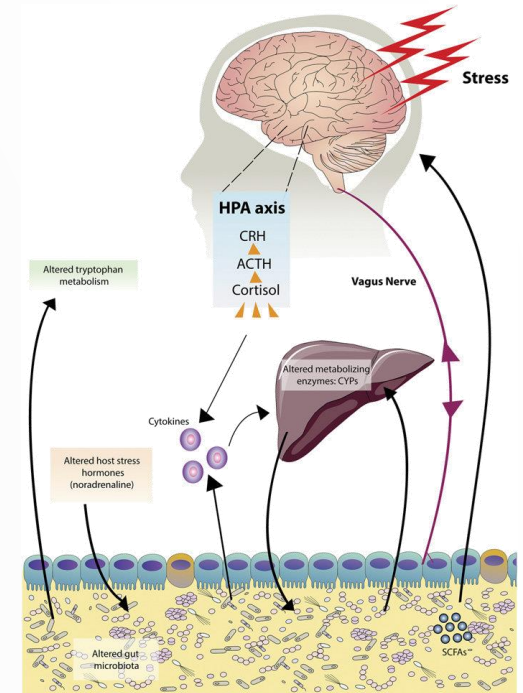
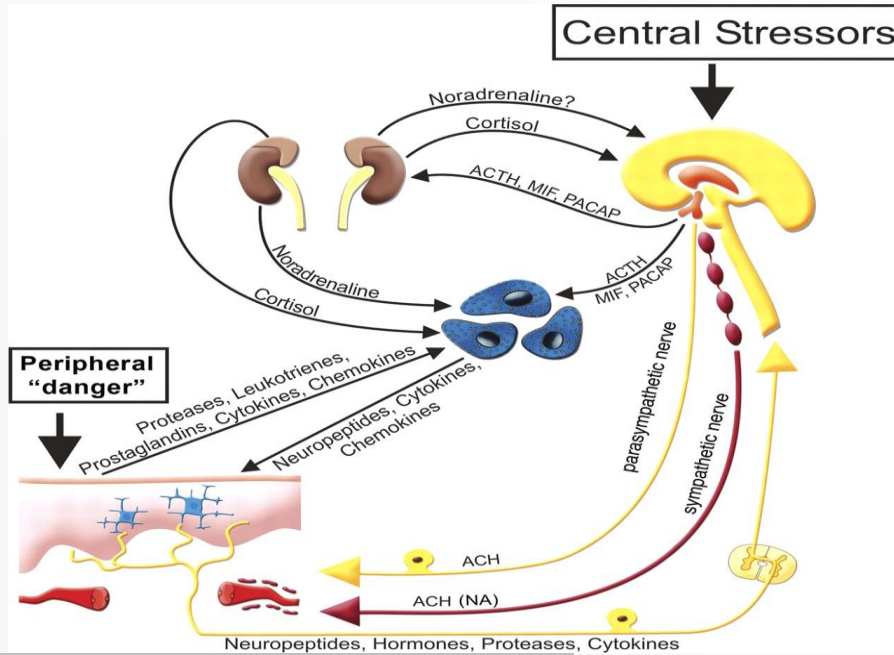
Pro-biotics

Living **micro-organisms**



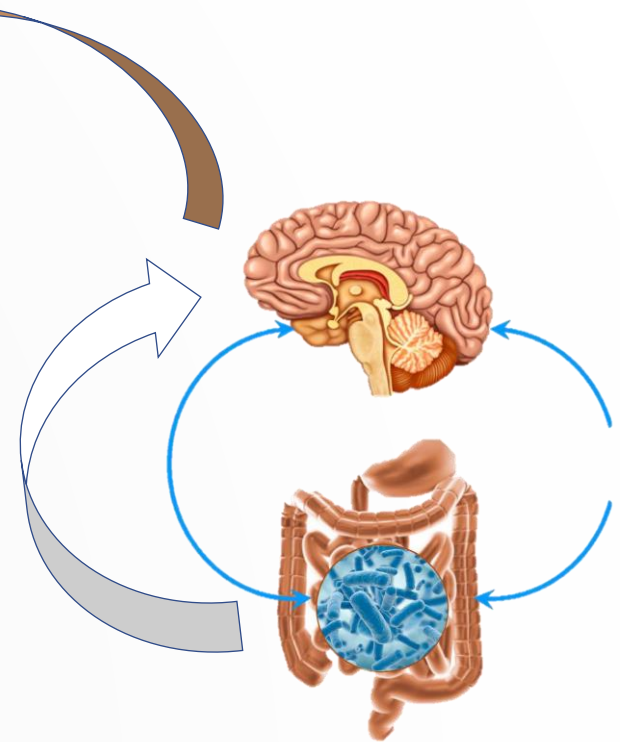
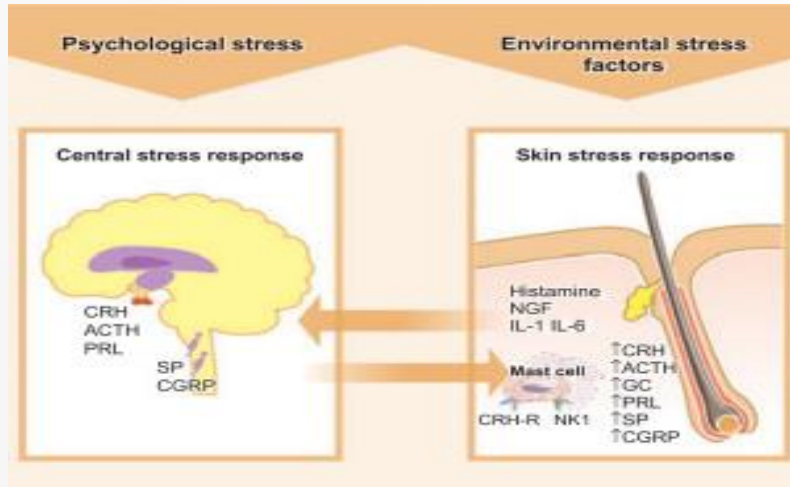
Brain – gut- skin?

Brain-gut & brain-skin connexions are CONCOMITANT



Bioengineering in Wound Healing: A Systems Approach (book), 2017

The brain whispers microbiota secrets to the skin



Neuroimmunology of Stress: Skin Takes Center Stage

Petra C. Arck¹, Andrzej Stominski², Theoharis C. Theoharides³, Eva M. J. Peters¹ and Ralf Paus⁴

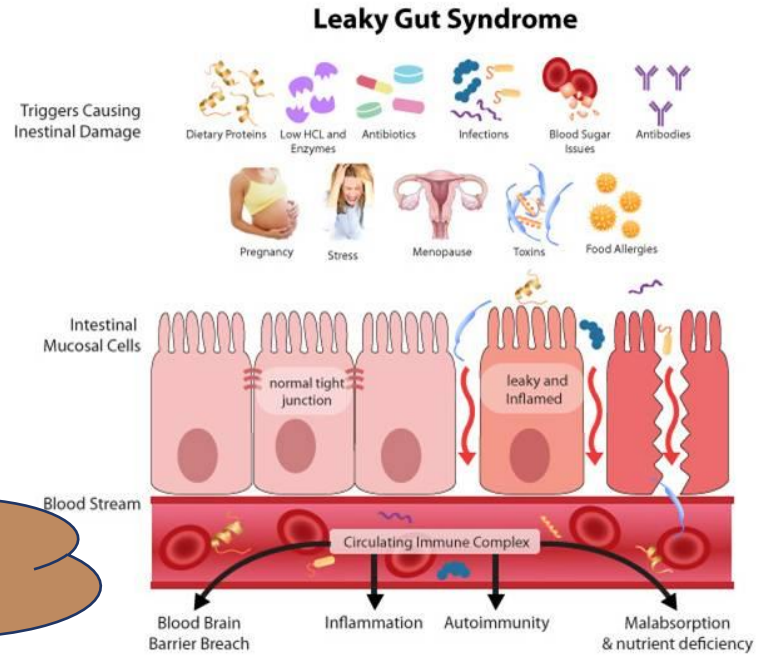
Journal of Investigative Dermatology (2006) 126, 1697-1704. doi:10.1038/sj.jid.5700104

What happens ... when things go wrong?

Cortisol

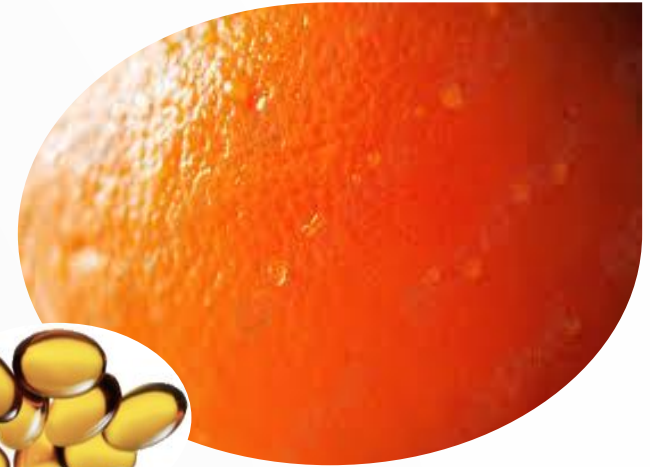
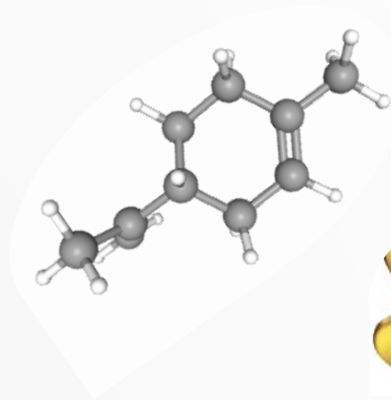
Mood disorders

Derma-psychologic syndromes



Barrier dysfunction = DYSBIOSIS

AISA contribution to the amelioration of aging skin : « small molecules » in organic extracts



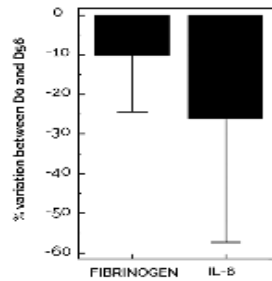
Mech Ageing Dev. 2020 Jan 2;186:111206. doi: 10.1016/j.mad.2019.111206. [Epub ahead of print]

AISA can control the inflammatory facet of SASP.

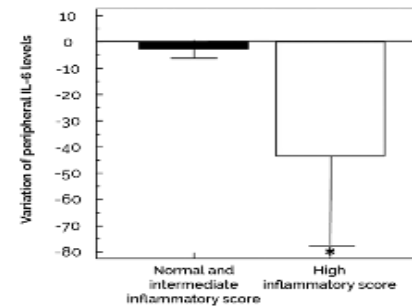
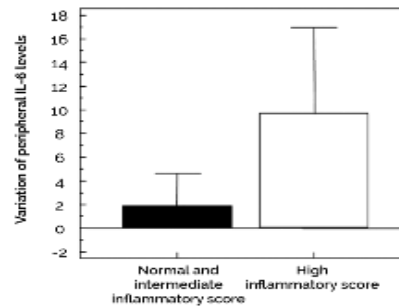
d'Alessio PA¹, Béné MC².



Inflammation markers



Anti-IL-6 efficacy as food supplementation



Clinical Nutrition 2016;35:812-818

IMCAS Mono terpenoid gero protectors

Food and Chemical Toxicology 123 (2019) 233–257

Contents lists available at ScienceDirect

Food and Chemical Toxicology



ELSEVIER

journal homepage: www.elsevier.com/locate/foodchemtox

Monoterpenes modulating cytokines - A review




Jullyana S.S. Quintans^a, Saravanan Shannmugam^b, Luana Heimfarth^c, Adriano Antunes S. Araçjo^d, Jackson R.G.da S. Almeida^e, Laurent Picot^f, Lucindo J. Quintans-Júnior^{a,*}

^a Laboratory of Neuroscience and Pharmacological Assays, Department of Physiology, Federal University of Sergipe, São Cristóvão, Sergipe, Brazil
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^c Center for Studies and Research of Medicinal Plants (NIEPLAME), Federal University of San Francisco Valley (UNIVASF), Petrolina, Pernambuco, Brazil
^d UMRV CNRS 7246 LEONIS, University of La Rochelle, 17042, La Rochelle, France

 **antioxidants** 

Review

Terpenoids as Potential Geroprotectors

Ekaterina Proshkina ¹, Sergey Plyusnin ^{1,2}, Tatyana Babak ¹, Ekaterina Lashmanova ¹, Faniya Maganova ³, Liubov Koval ^{1,2}, Elena Platonova ^{1,2}, Mikhail Shaposhnikov ¹ and Alexey Moskalev ^{1,2,*}

AIMS Molecular Science

2022, Volume 9, Issue 2: 46-65. doi: [10.3934/molsci.2022003](https://doi.org/10.3934/molsci.2022003)

Research article

d-Limonene challenging anti-inflammatory strategies

Patrizia A d'Alessio ¹  , Marie C Béné ², Chantal Menut ³

1. AISA Therapeutics, University Paris Sud-11 and Genopole, Evry, France
2. Hematology Biology, CHU de Nantes & Inserm 1232 CRCINA, Nantes, France
3. IBMM, Univ Montpellier, CNRS, ENSCM, Montpellier, France

Received: 12 November 2021 | Revised: 09 January 2022 | Accepted: 07 April 2022 | Published: 20 April 2022

[Previous Article](#)

INFLAMMATION: THE ARSENAL TO DELAY AGEING IN 2022

Patrizia A d'Alessio explains why she believes inflammation is the root cause of ageing symptoms and how it can be addressed

ABSTRACT

In our modern world, there is a paradox between our stressful lives and the increase in longevity. The latter should ideally be associated with healthy ageing, which is not always so easy to achieve. Trying to identify the complex immune and metabolic alterations that favour the appearance of ageing traits, researchers have pinpointed chronic (or silent) inflammation as a key factor. This status, which settles insidiously, is often not recognised as the source of odd pains, insomnia, mood changes or obsessional thoughts. Once acknowledged, three options can be chosen. The first is through medication, i.e. anti-inflammatory drugs that certainly relieve some symptoms but also come with unwanted side-effects. The second involves taking care of the gut. Numerous signals are generated by constant brain-gut exchanges, also concerning the skin. A healthy gut depends on the action of microbiota, bacterial strains selected by healthy food. Among them, proper nutraceuticals have a place, especially if they are derived from natural products. Finally, a whole range of experiences, from mild exercise to social activities, engage the vagus nerve positively to establish a less inflammatory, more efficient body status, able to cope smoothly with life's challenges.

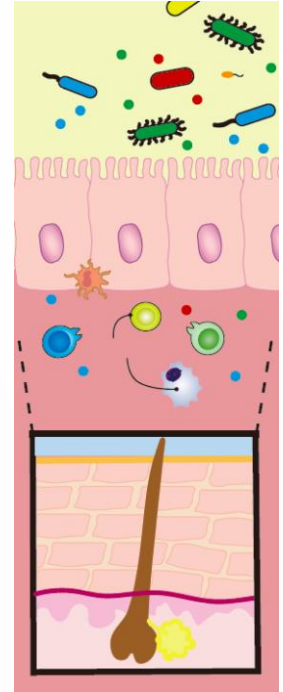
26 | September/October 2022 | prime-journal.com

Skin dishydrosis of the elderly

Gut dysbiosis directly compromises the barrier function of the **skin**



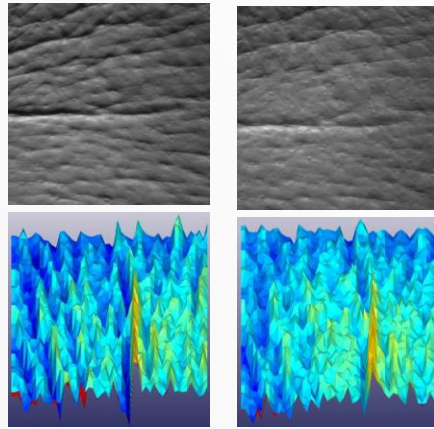
Anti-inflammatory nutraceuticals can preserve **gut barrier** function restoring **skin compliance**



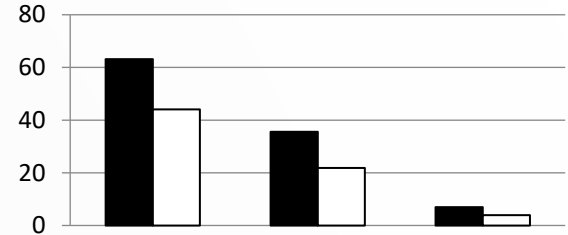
Skin sagging



Before After



Observational study



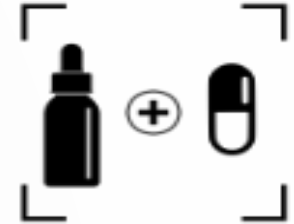
	■ D0	□ D29
WRINKLES NUMBER		
-30,2%		
WRINKLES LENGTH		
-38,5%		
WRINKLES SURFACE		
-43,3%		



Intermediate psoriasis



D0



D45

Global Journal of Dermatology & Venereology, 2015, 3, 1-4

IMCAS

Case study : atopic dermatitis
(eczema) worsened by repeated
topic cortisol treatment

High levels of zonulin / anti-food IgG

Partial restoration after 10 days cure
with **anti-inflammatory** terpenoids

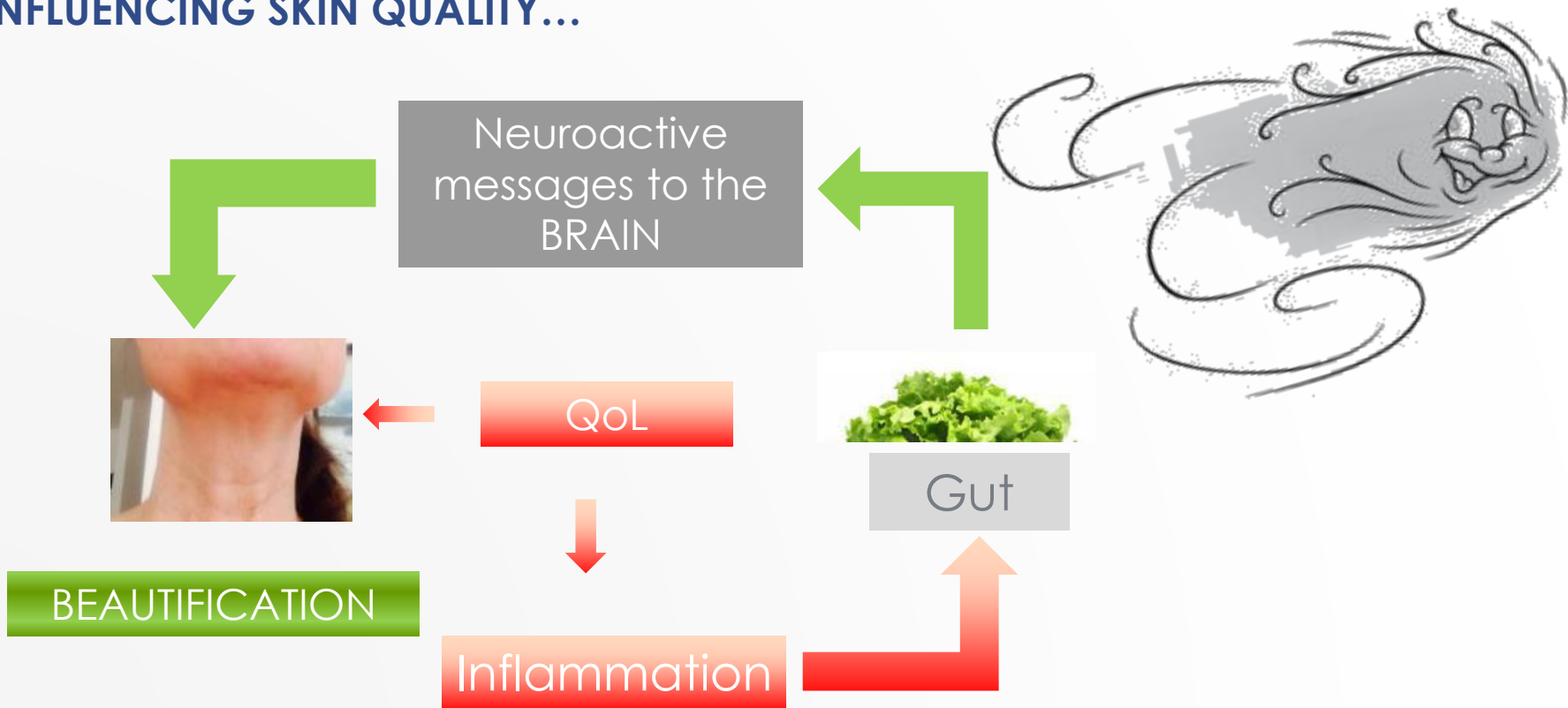
Gut barrier repair, with
restitution of skin quality

Visible **mood** amelioration
Rejuvenation effect

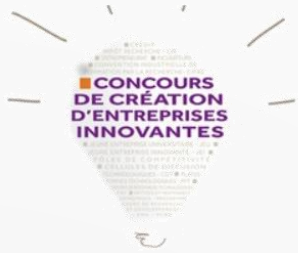


Fibers boost epigenetic potential

INFLUENCING SKIN QUALITY...



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Credits



Life Sciences **2013**;92:1151-1156; Global Journal of Dermatology & Venereology, **2015**, 3, 1-4;
Clinical Nutrition **2016**;35:812-818; Nutrients **2020**;12,800; AIMS Molecular Science **2022** 9 (2): 46-65.

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Thank you for
your attention