

Mediterranean Diet, Functional Foods and Bioactive Compounds: Science and Practice

30th International Conference of FFC - 18th International Symposium of ASFFBC

September 23-25, 2022, Department of Food Science and Nutrition, University of the Aegean, Myrina, Lemnos, Greece



Fasting, CR and fasting- mimetics: Epigenetics, microbiota and personalisation

Haslberger G Alexander

University Vienna, Dep. f. Nutrition

Genetics, Microbiota and Epigenetics

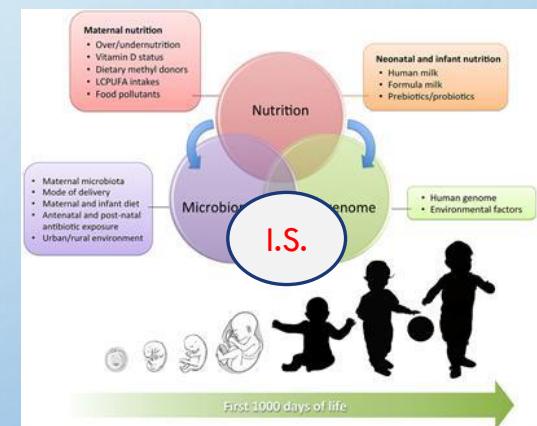
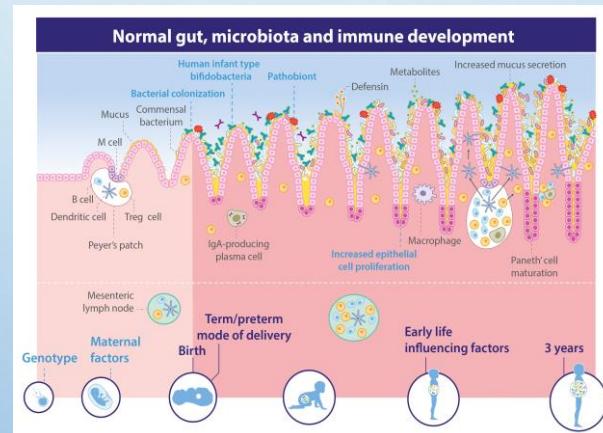
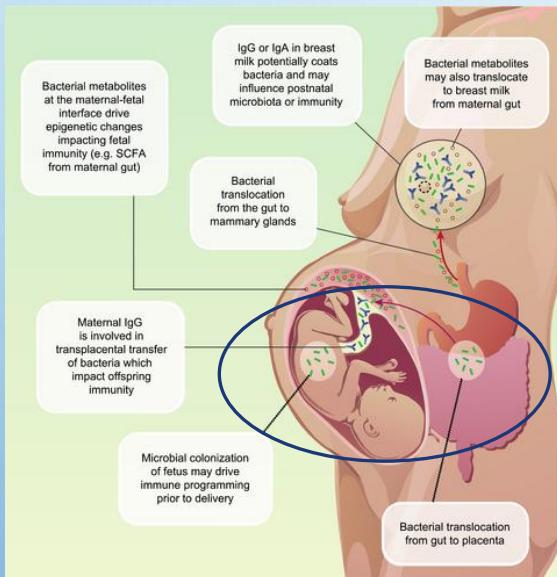
Fasting

Fasting mimetics,

Personalisation

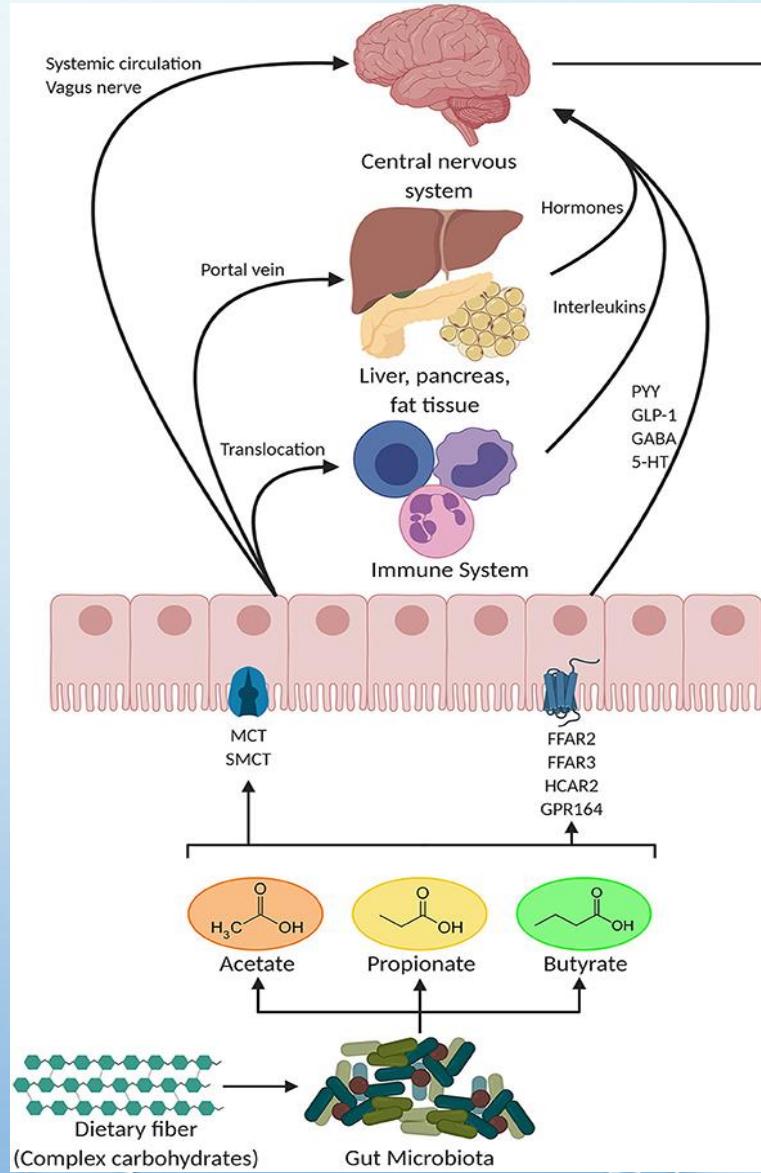
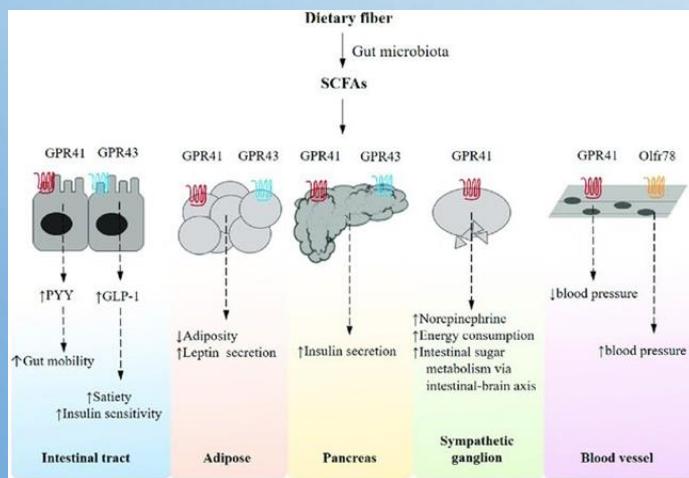


DEVELOPMENT OF MICROBIOTA, I.S., AND THE EPIGENETIC SYSTEM, FIRST 1000 DAYS OF LIFE

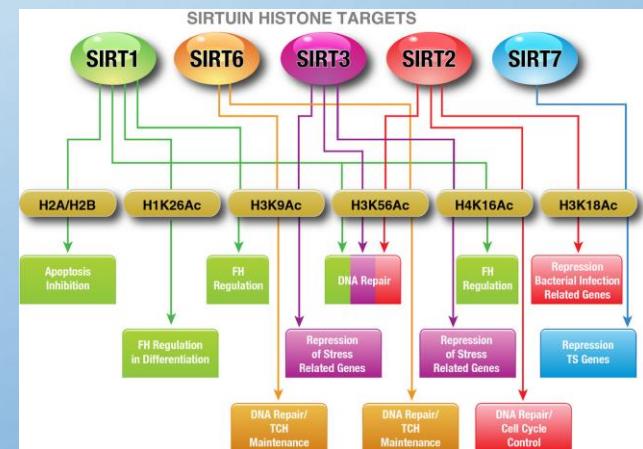
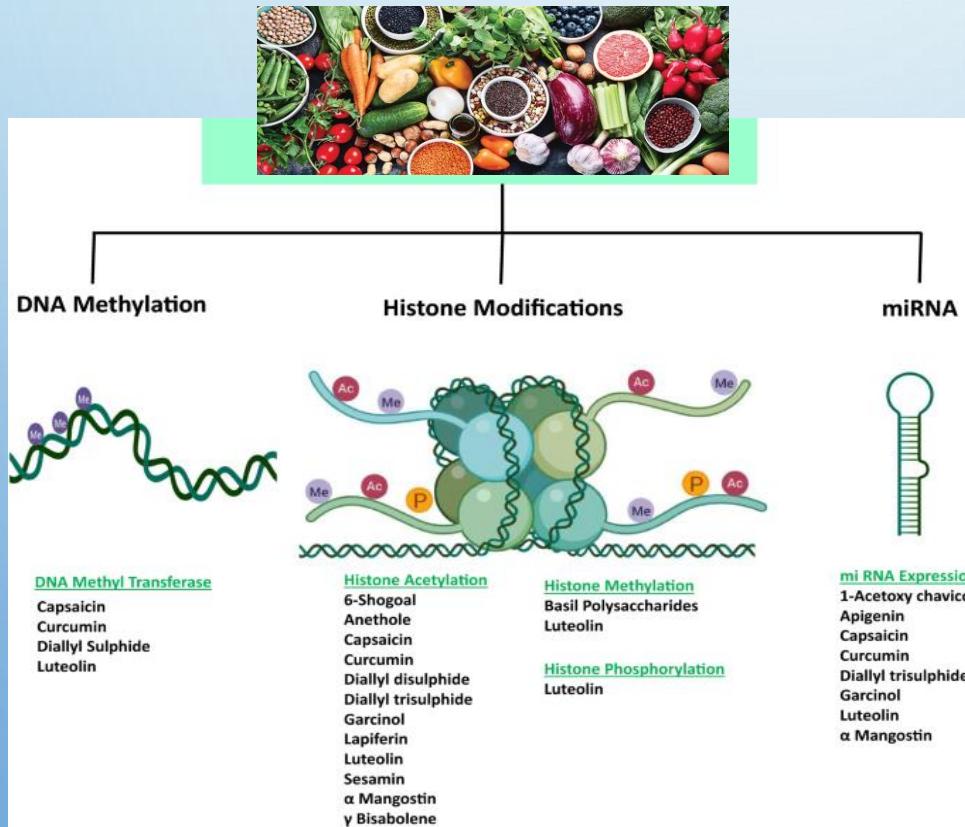


Development prenatal, Interaction with I.S., epigenetic maternal factors, Diversity:delivery, breastfeeding, imprinting in 1000 days of life

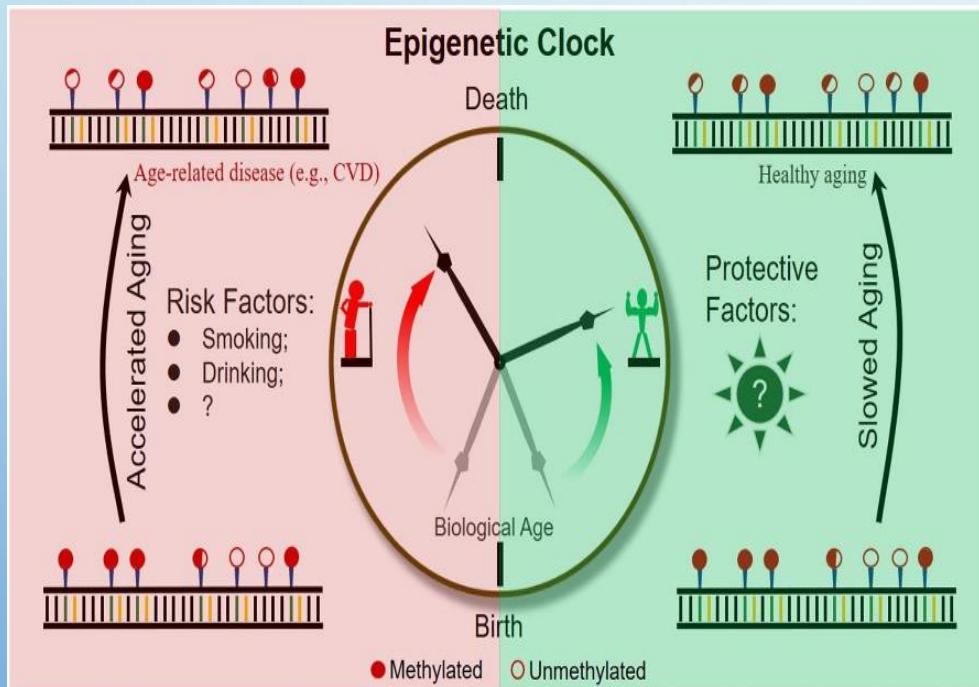
DIET- GUT- MICROBIOTA I.S.,- CNS, EPIGENETIC AXIS



DIETARY INGREDIENTS AND MICROBIOTA-DERIVED METABOLITES (SCFAS) ADDRESS ALL ELEMENTS OF THE EPIGENETIC SYSTEM, ESP. SIRTUINS



AGING, DIETS, AND THE EPIGENETIC CLOCK, CPG- DNA METHYLATION;



AG Haslberger

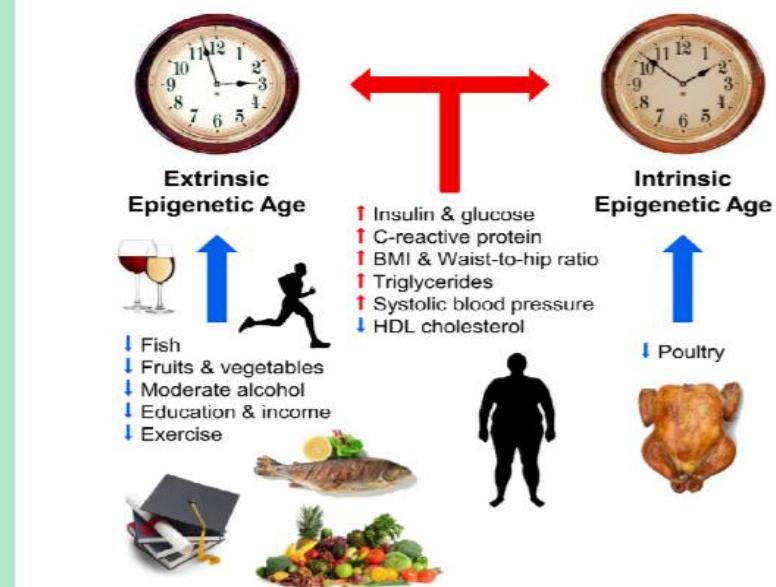
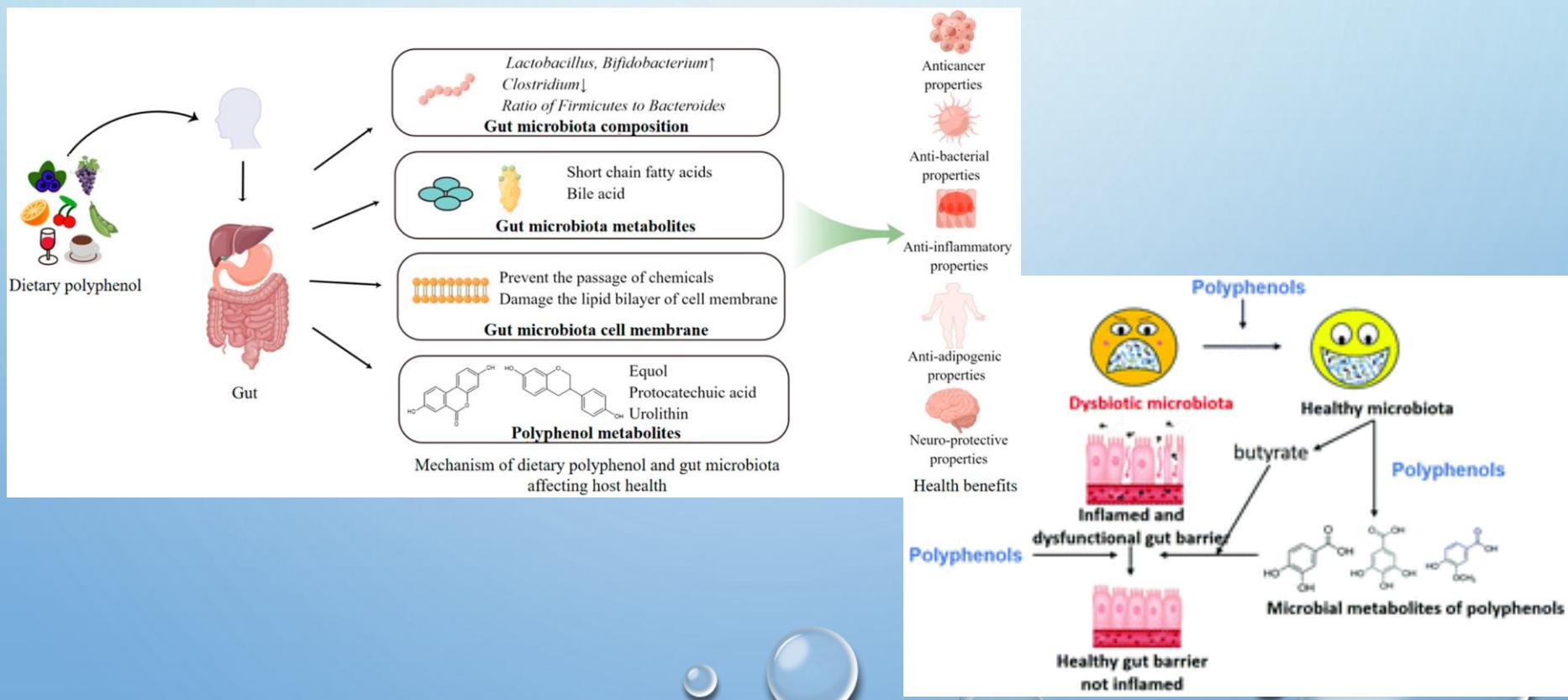
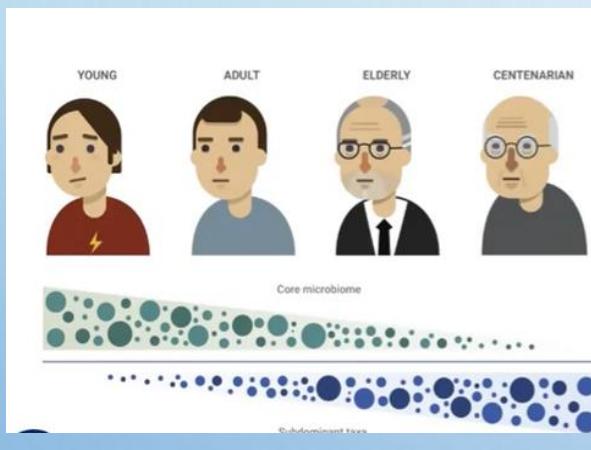


Figure 4. Pictorial summary of our main findings. The blue and red arrows depict anti-aging and pro-aging effects in blood respectively. The two clocks symbolize the extrinsic epigenetic clock (enhanced version of the Hannum estimate) and the intrinsic epigenetic clock (Horvath 2013) which are dependent and independent of blood cell counts, respectively.

DIETS, POLYPHENOLS AND MICROBIOTA



AGING, BACTERIAL DIVERSITY AND HEALTH

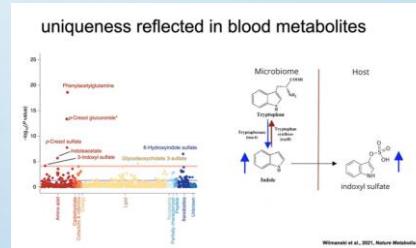
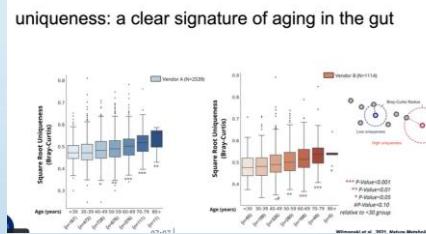


Combined PCR-DGGE fingerprinting and quantitative-PCR indicates shifts in fecal population sizes and diversity of *Bacteroides*, bifidobacteria and *Clostridium* cluster IV in institutionalized elderly

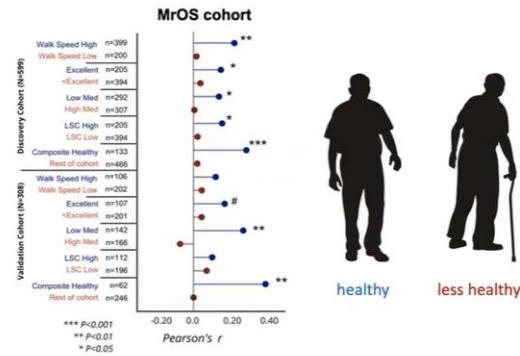
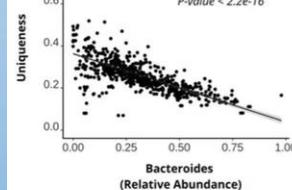
Jutta Zwielehner^a, Kathrin Liszt^a, Michael Handschur^a, Cornelia Lassl^a, Alexander Lapin^b, Alexander G. Haslberger^{a,*}

^aDepartment of Nutritional Sciences, University of Vienna, Austria

^bSozialmedizinisches Zentrum Sophienspital, 1070 Wien, Apollogasse 19, Austria

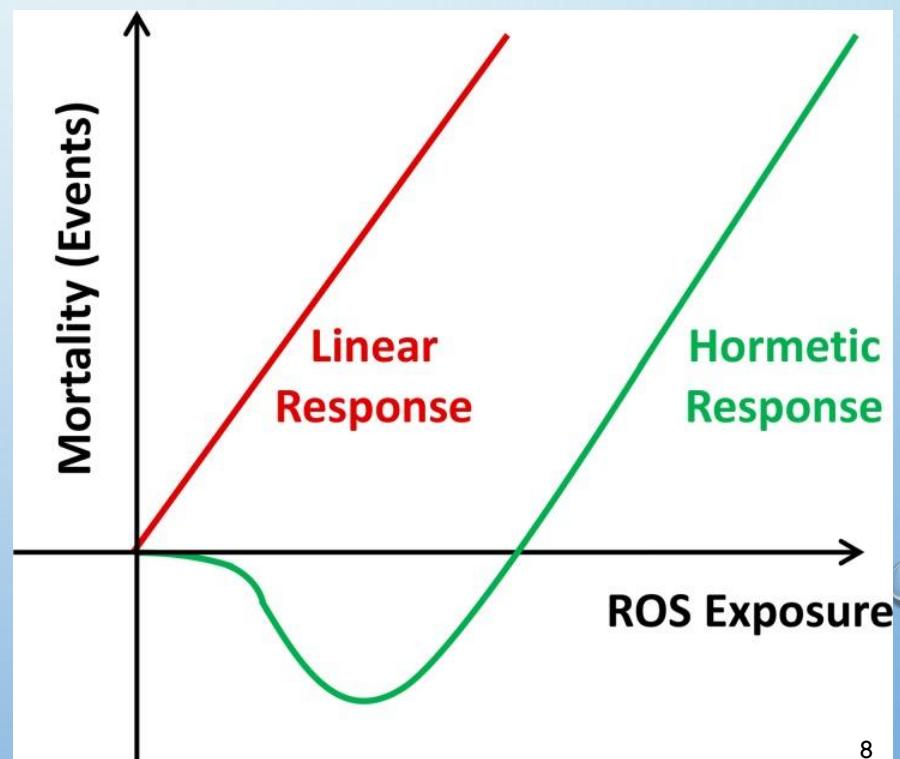
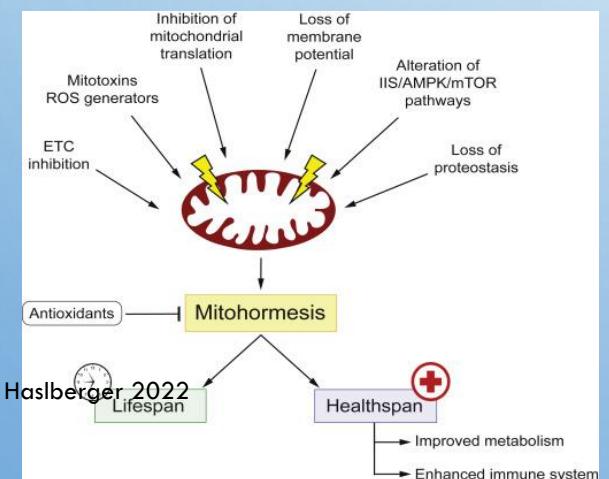
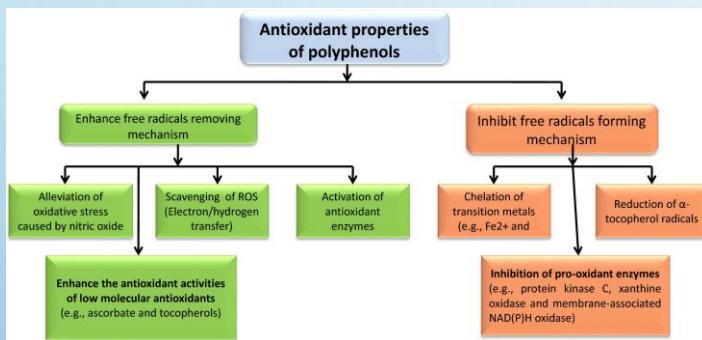


uniqueness pattern is associated with reduction in core taxa and with health state

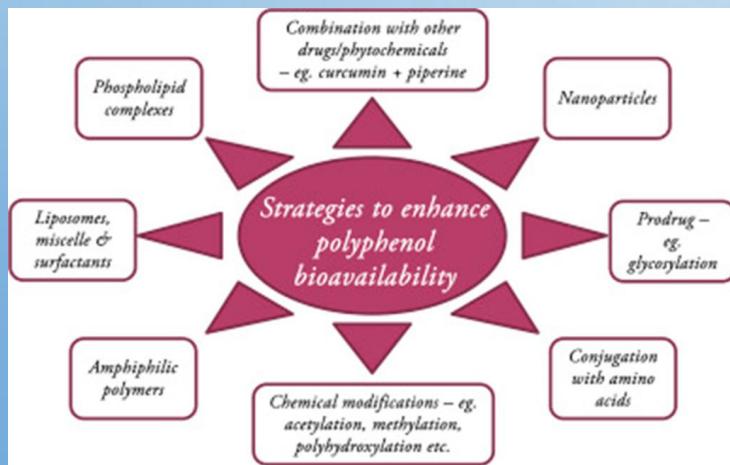
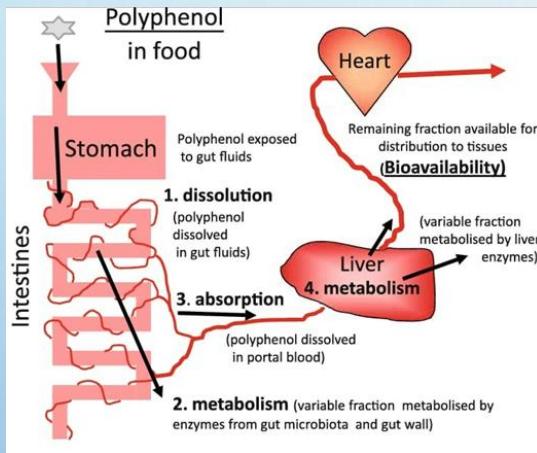


Wilmanski et al., 2021, *Nature Metabolism*

POLYPHENOLS: ANTI-OXYDATIVE, ROS BUT SOME ROS NEEDED MITOHORMESIS !

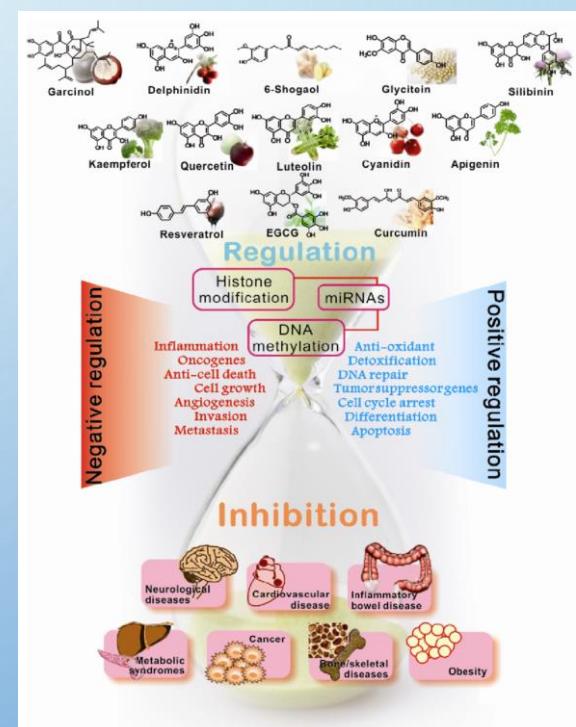


PLANT ADDITIVES : STABILITY, BIOACTIVITY ANTI-OXYDATIV : MICROBIOTA- EPIGENETICS



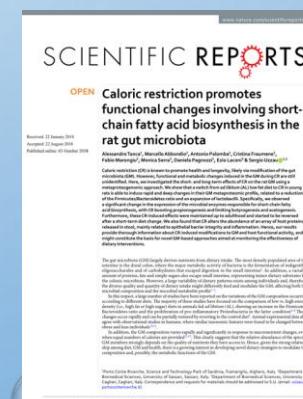
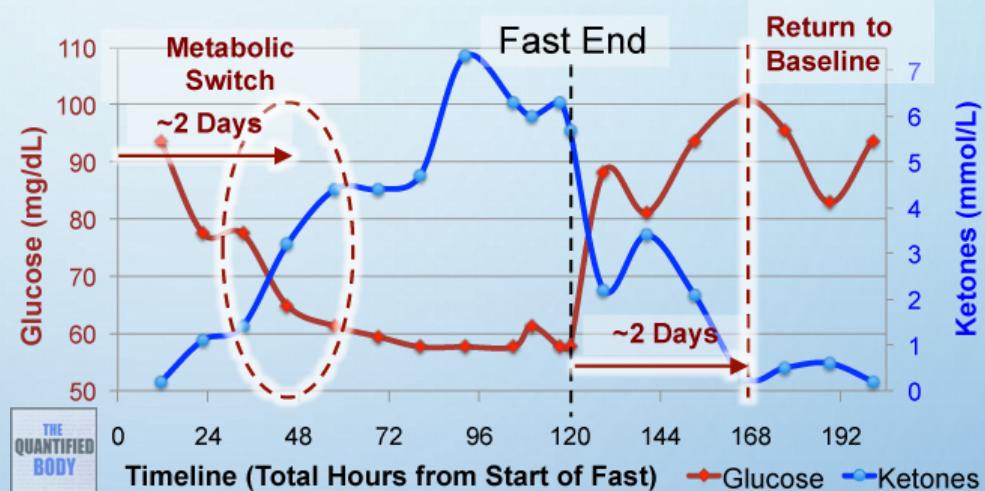
Enhancing:

Plant extracts
Nutraceuticals
Additives
Functional foods
Novel foods, EU
Dietary foods
Medicinal foods
Pharmaceutics
???



FASTING: EPIGENETIC HIGHLY ACTIVE BUTYRATE, BHB

FASTING BENEFITS



C.R, FASTING: DIET IN MOUNT ATHOS MOUNTAIN TEA IS PART OF MEDITERANEAN DIET

Diet of the monks of Mount Athos

January 23, 2021



The monks lead a modest life from a food point of view, not to mention processed foods, meals are taken quietly, which is why the church faces on Mount Athos have a life expectancy ten years longer than the ordinary Greek. This lifestyle is the subject of a book that teaches you how to live, not just how to lose weight.

According to nutrition experts, the Mediterranean diet and fasting days, to the same extent, contribute to weight loss.

Orthodox monks on Mount Athos eat almost exclusively unprocessed, low-fat foods. In addition, on fasting days, monks drastically reduce their caloric intake, he writes Daily Mail.

Sideritis

cosmos philly
Greek-American News from Philadelphia

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FOOD

Greek Mountain Tea as a part of the healthful Mediterranean diet

Posted by [Cosmos Philly](#) on May 24, 2015

[Comment](#)



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ΤΣΑΙ ΒΟΥΝΟΥ 10 TEABAGS - Limnos-shop.gr

Organic Greek mountain tea from Lemnos. Taste – Warm, lemony, mild and sweet taste. Constituents – Greek mountain tea. 10 servings per pouch ...



MOUNTAIN TEA IN BLUEZONE IKARIA ALZHEIMER,



 U.S. National Library of Medicine

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Home > Search Results > Study Record Detail Save this study

Management of Mild Cognitive Impairment Patients With Greek Mountain Tea - TEAMENTIA (TEAMENTIA)

ClinicalTrials.gov Identifier: NCT04435509

Recruitment Status : Unknown
Verified June 2020 by Magda Tsolaki, Aristotle University

The safety and scientific validity of this study is the responsibility of the study sponsor and investigators.
⚠ Listing a study does not mean it has been evaluated



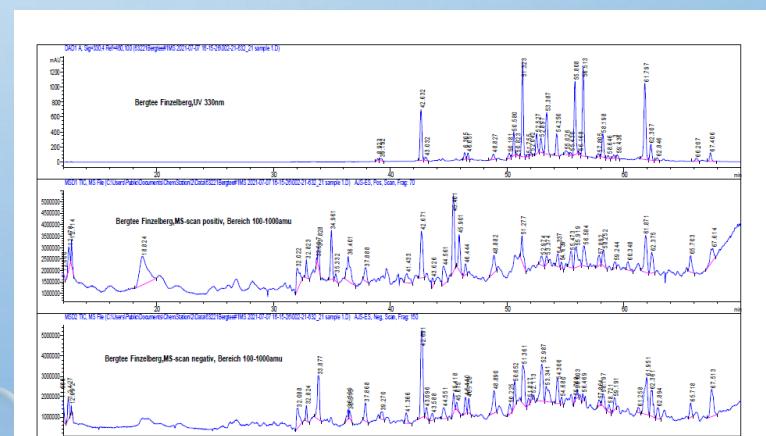
BLUE ZONES® ELEMENTS

HOME KONZEPT BASIS PRODUKTE METHODE ÜBER UNS KONTAKT

Ikaria, Greece *The island where people forget to die.*

This tiny island's long history has been as rocky as its topography. The outcropping in the Aegean Sea has been the target of invasions by Persians, Romans and Turks, forcing its residents inland from the coasts. The result: An isolated culture rich in tradition, family values – and longevity.

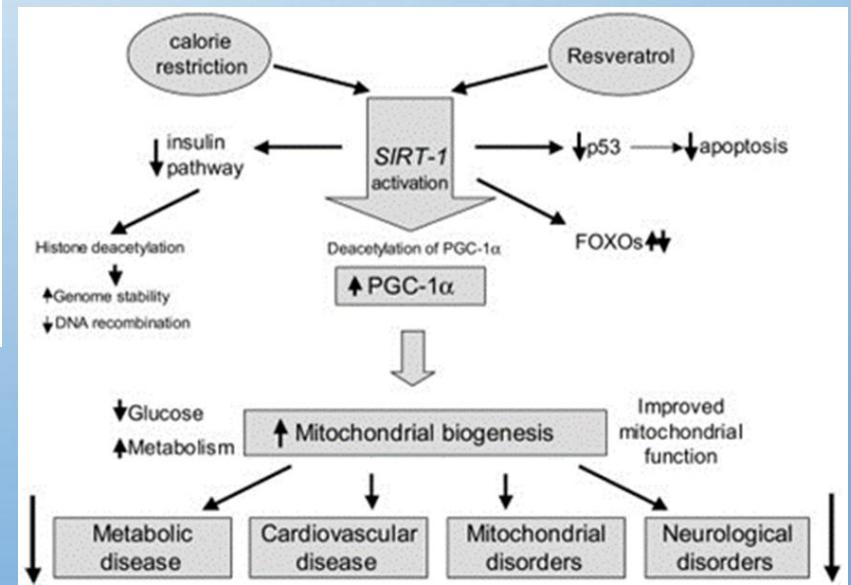
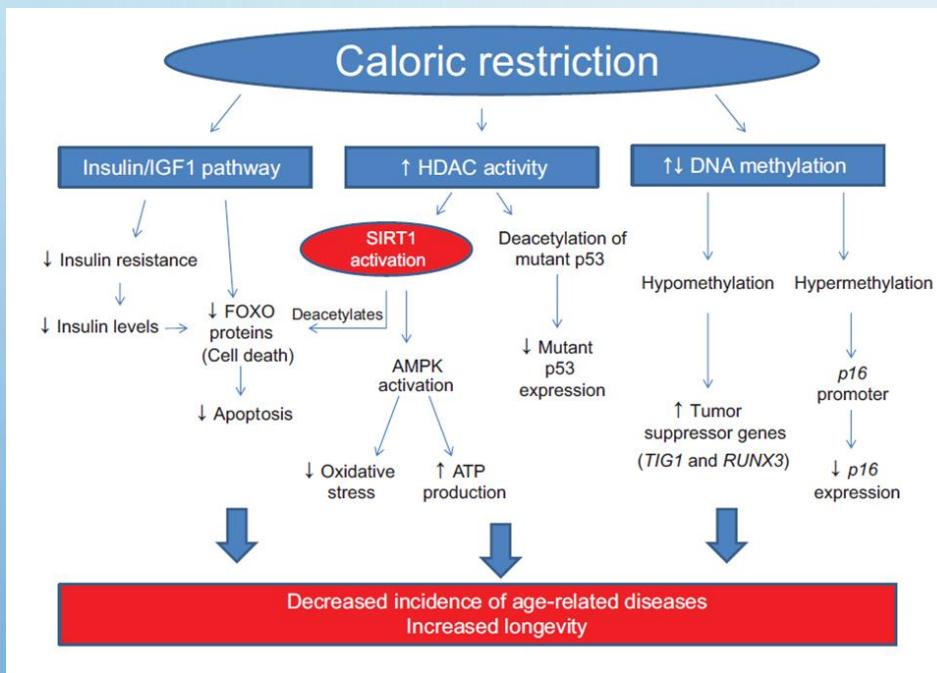
Today, Ikarians are almost entirely free of dementia and some of the chronic diseases that plague Americans; one in three make it to their 90s. A combination of factors explain it, including geography, culture, diet, lifestyle and outlook.

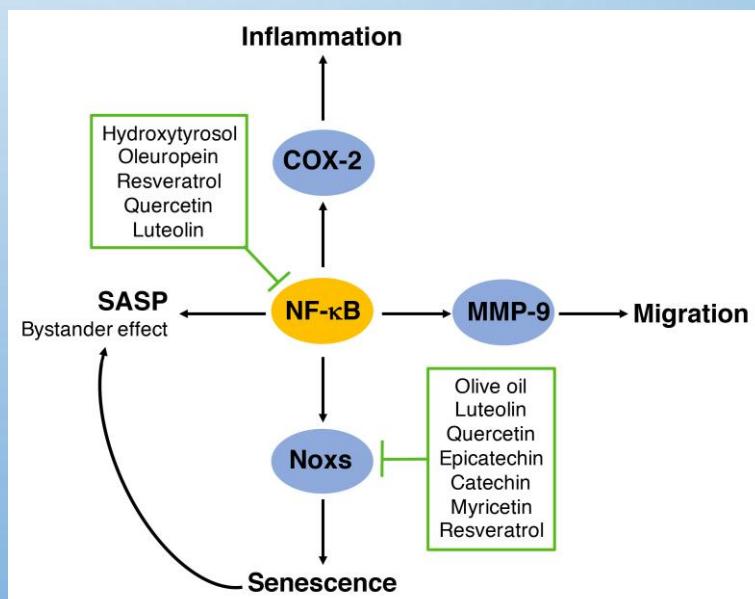
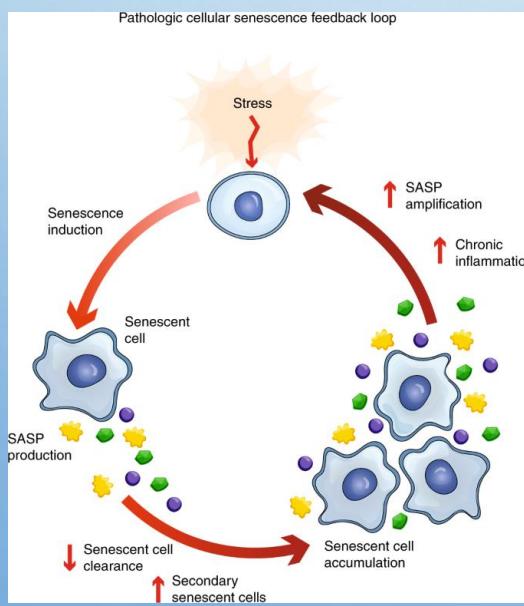
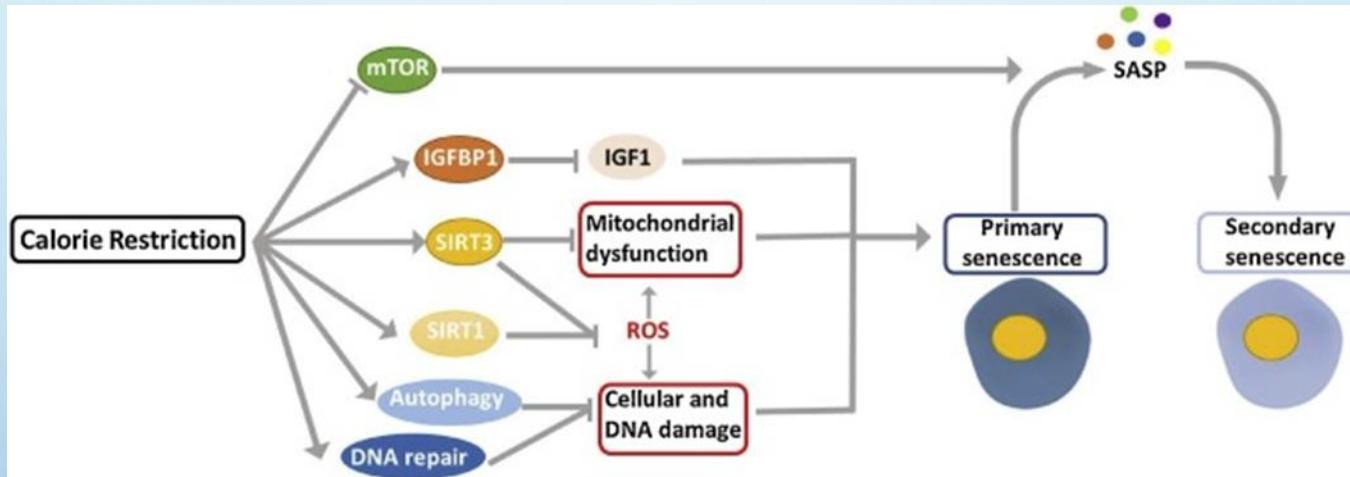
Ferulic acid

COMMON PATHWAYS OF CR, FASTING, AND MANY POLYPHENOLS

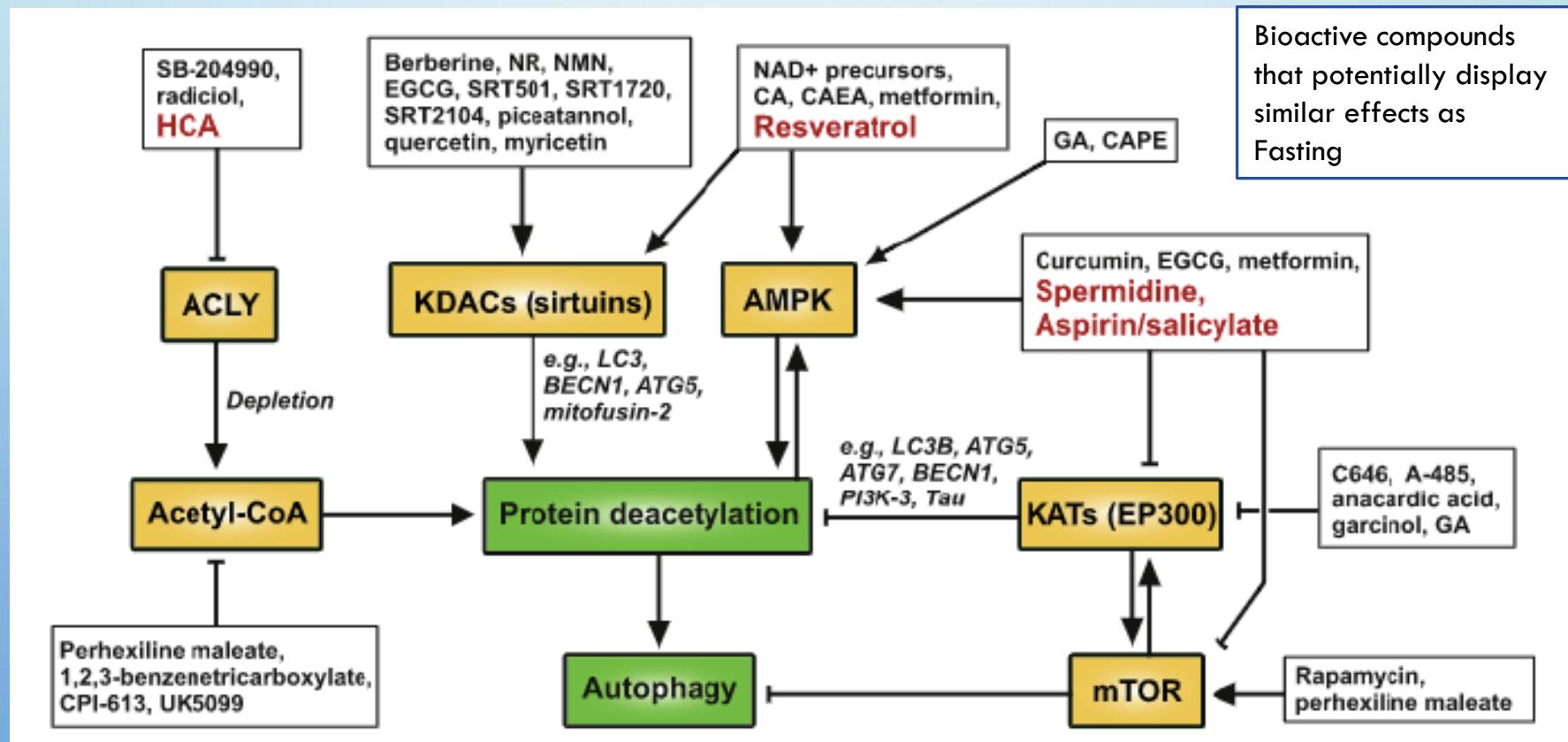
EPIGENETIC ACTIVITY, ESP. SIRT PATHWAY



FASTING, POLYPHENOLS, SENESCENCE



FASTING MIMETICS: FROM ADDITIVES TO PHARMACEUTICS (MABS,CART T) COMBINATIONS USEFULL?



CASE STUDY: COMPARING FASTING AND A FASTING MIMETIC SIRT-FOOD SHOT: MICROBIOTA, EPIGENETICS



Buchinger Fasting < 120
kcal/day
n: 22 in Pernegg Monastery

Feces , blood spots, before and
After the end, first solid feces
Illuminia sequencing, Line 1 methylation bisulfite qPCR, HR-MCA,
RNA, MiRNA RT QPCRi



STOFF	WIRKSTOFF	MENGE / 25ML	Wirkstoff
Blueberry Extract	Anthocyanins/ Anthocyanidin..	40 mg	14mg 10mg
Broccoli Extract	Sulphorapane, Glucoraphin..	30 mg	
Apfel extract	Phlorentin, Quercetin..	50 mg	
Citrus extract	Naringin..	40 mg	
Nikotinamid	Nikotinamid ribosid	24 mg	
Zinkgluconat	Zink	7.5 mg	
Wasser, Stevia, Erythrit			

Active (N. 131) Placebo (n: 30)
Intervention 3 months

Feces, Blood spots before, after 1,3 month

STUDY SENOLYTICS, SENESCENCE MARKERS IN BRDU TREATED PRE-ADIPOCYTES, ADIPOCYTES, 3T3

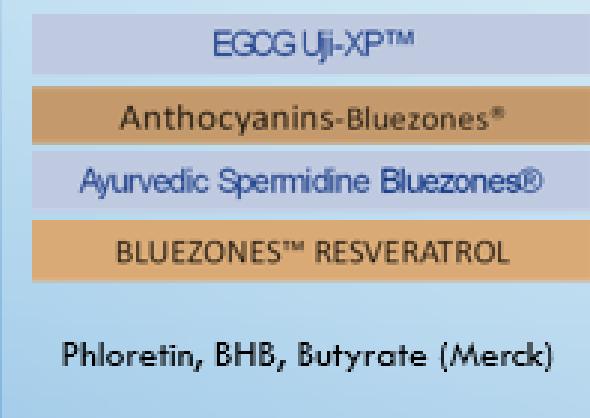
Hindawi
Oncologic Medicine and Cellular Longevity
Volume 2020, Article ID 4793125, 13 pages
<https://doi.org/10.1155/2020/4793125>



Research Article

Epigallocatechin Gallate Effectively Affects Senescence and Anti-SASP via SIRT3 in 3T3-L1 Preadipocytes in Comparison with Other Bioactive Substances

Stephanie Lilja,¹ Julia Oldenburg,¹ Angelika Pointner,¹ Laura Dewald,¹ Mariam Lerch,¹ Berit Hippe,² Olivier Switzency,² and Alexander Haslberger¹



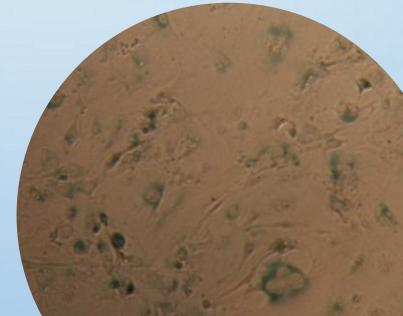
Stem Cells. Author manuscript; available in PMC 2015 Aug 19.

Published in final edited form as:

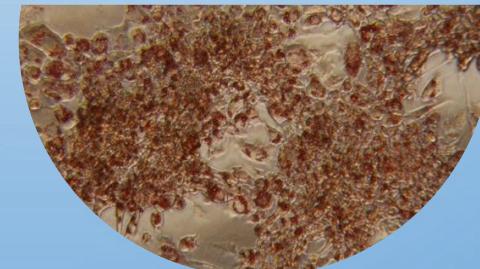
Stem Cells. 2008 Dec; 26(12): 3218–3227.

Published online 2008 Sep 18. doi: [10.1634/stemcells.2008-0299](https://doi.org/10.1634/stemcells.2008-0299)

Bromodeoxyuridine Induces Senescence



B-Gal, senescence

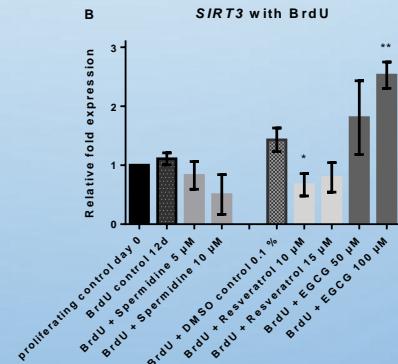
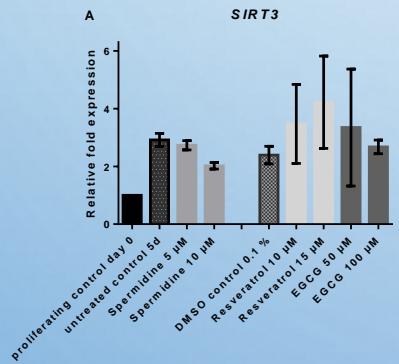
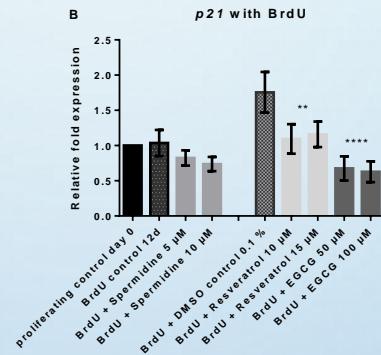
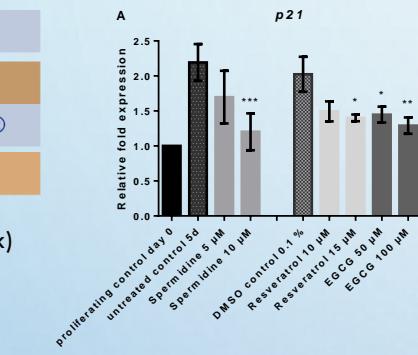


Adipocytes, fat droplets

IN VITRO CONFIRMATION THAT SELECTED COMPOUNDS ARE ACTIVE IN PREADIPOCYTES, 3T3. MARKERS FOR SENESCENCE, AUTOPHAGY, EXPRESSION SIRT 3. BEST EGCG



Phloretin, BHB, Butyrate (Merck)

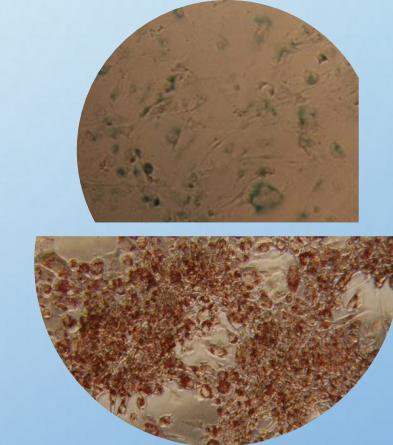


Hindawi
Oxidative Medicine and Cellular Longevity
Volume 2020, Article ID 479115, 13 pages
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Research Article

Epigallocatechin Gallate Effectively Affects Senescence and Anti-SASP via SIRT3 in 3T3-L1 Preadipocytes in Comparison with Other Bioactive Substances

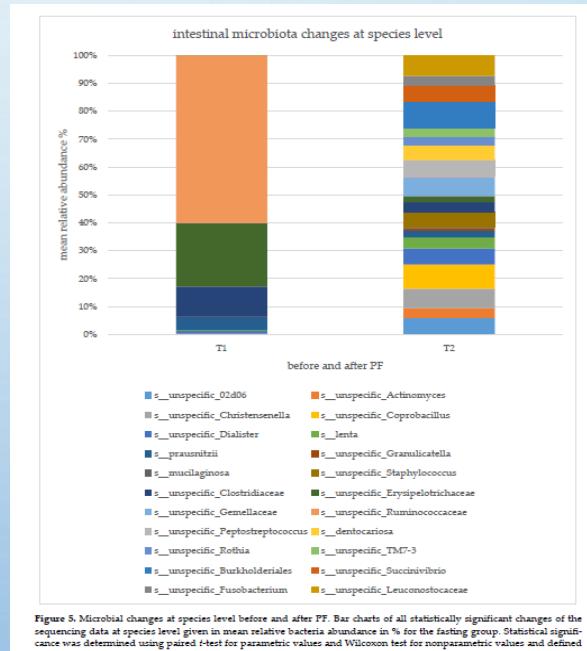
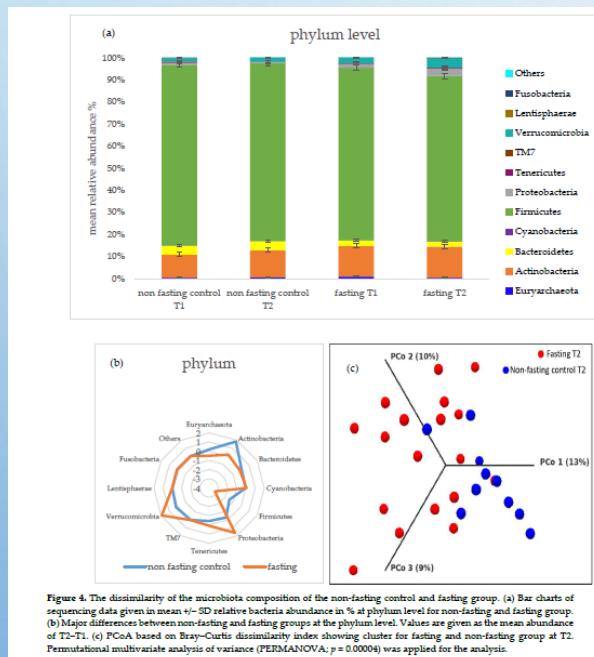
Stephanie Lijla,¹ Julia Oldenburg,² Angelika Pointner,¹ Laura Diewald,¹ Mariam Lerch,¹ Birte Hippel,² Oliver Switzeny,² and Alexander Hasberger¹



Pre, Adipocytes, fat droplets
B-Gal, senescence



BUCHINGER FASTING RESULTED IN A RISE IN THE DISTRIBUTION OF PROTEOBACTERIA, INCREASED MICROBIOTA DIVERSITY AND A SIGNIFICANT INCREASE IN CHRISTENSENELLA



3M SIRT INDUCING DRINK INCREASING ACTINOBACTERIA. FIRMICUTES/BACTEROIDETES RATIO DECREASED AND CORRELATED WITH BMI. ONLY FASTING INCREASED BUTYRATE SIGNIFICANTLY

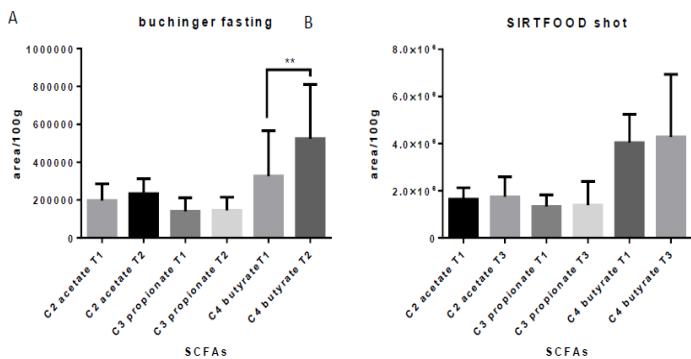


Figure 7: Amount of SCFAs produced given as area/100g stool for buchinger fasting (A) and SIRTFOOD shot (B) interventions. Statistical significance between timepoint 1 (T1) and end (T2 or T3) of the intervention was determined using paired t-test for parametric values and Wilcoxon test for nonparametric values.

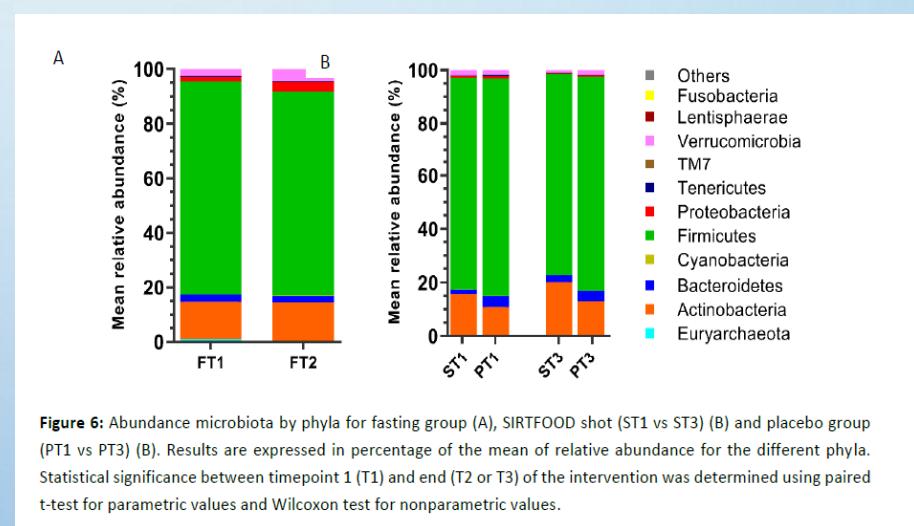


Figure 6: Abundance microbiota by phyla for fasting group (A), SIRTFOOD shot (ST1 vs ST3) (B) and placebo group (PT1 vs PT3) (C). Results are expressed in percentage of the mean of relative abundance for the different phyla. Statistical significance between timepoint 1 (T1) and end (T2 or T3) of the intervention was determined using paired t-test for parametric values and Wilcoxon test for nonparametric values.

POSITIVE CORRELATION OF THE ABUNDANCE OF BUTYRATE-PRODUCING BACTEROIDETES WITH MIR125, SIRT-1 EXPRESSION, TELOMERE LENGTH

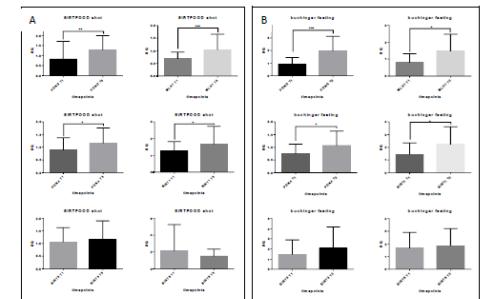


Figure 4: RQ selected mRNA gene expression (FoxO1, MLH1, POK4, SIRT1, SIRT3, SIRT5) SIRTFood shot and buchinger fasting. The results are expressed as mean +/- SD. Statistical significance between timepoint 1 (T1) and end (T2 or T3) of the intervention was determined using paired t-test for parametric values and Wilcoxon test for nonparametric values.

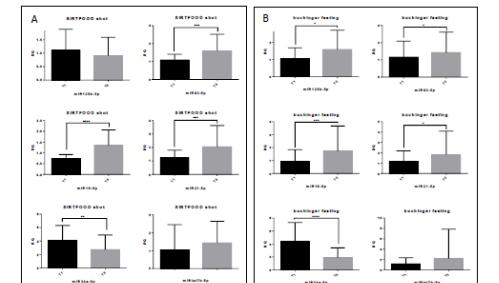


Figure 5: RQ selected mRNA gene expression (miR125b-5p, miR93-5p, miR10-5p, miR21-5p, miR34a-5p, miR167b-5p) SIRTFood shot and buchinger fasting. The results are expressed as mean +/- SD. Statistical significance between timepoint 1 (T1) and end (T2 or T3) of the intervention was determined using paired t-test for parametric values and Wilcoxon test for nonparametric values.

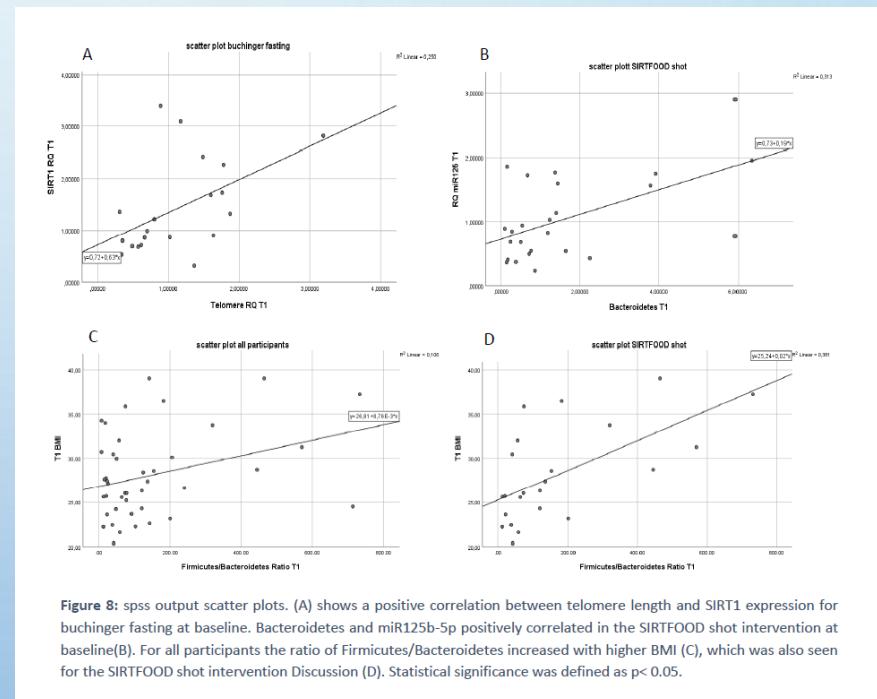


Figure 8: SPSS output scatter plots. (A) shows a positive correlation between telomere length and SIRT1 expression for buchinger fasting at baseline. Bacteroidetes and miR125b-5p positively correlated in the SIRTFood shot intervention at baseline (B). For all participants the ratio of Firmicutes/Bacteroidetes increased with higher BMI (C), which was also seen for the SIRTFood shot intervention (D). Statistical significance was defined as $p < 0.05$.

CONCLUSIONS

In conclusion fasting and to some extend fasting mimetics result in beneficial modulation of microbiota (e.g diversity, SCFA, BHP) and metabolism (e.g SIRTs, mtDNA, telomer length)

Microbiota structure seems to interfere with the expression of Sirtuins and metabolism relevant miRNAs

Haslberger 2022

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Research Article

Epigallocatechin Gallate Effectively Affects Senescence and Anti-SASP via SIRT3 in 3T3-L1 Preadipocytes in Comparison with Other Bioactive Substances

Stephanie Lilja,¹ Julia Oldenburg,¹ Angelika Pointner,¹ Laura Dewald,¹ Mariam Lerch,¹ Berit Hippe,² Olivier Switzeny,² and Alexander Haslberger¹



International Journal of
Molecular Sciences



Article

Five Days Periodic Fasting Elevates Levels of Longevity Related *Christensenella* and Sirtuin Expression in Humans

Stephanie Lilja¹, Carina Stoll¹, Ulrike Krammer¹, Berit Hippe¹, Kalina Duszka¹, Tewodros Debebe², Ingrid Höfinger¹, Jürgen König¹, Angelika Pointner¹ and Alexander Haslberger^{1,*}

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Functional Foods in Health and Disease

Home Editorial Team Issues

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Fasting and fasting mimetic supplementation address sirtuin expression, miRNA and microbiota composition

Stephanie Lilja, Hanna Bäck, Kalina Duszka, Berit Hippe, Lucia Suarez, Ingrid Höfinger, Tewodros Debebe, Jürgen König, Alexander Haslberger

Bioactive Compounds in Health and Disease 2021; 4(4): 45-62

BCHD

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Research Article

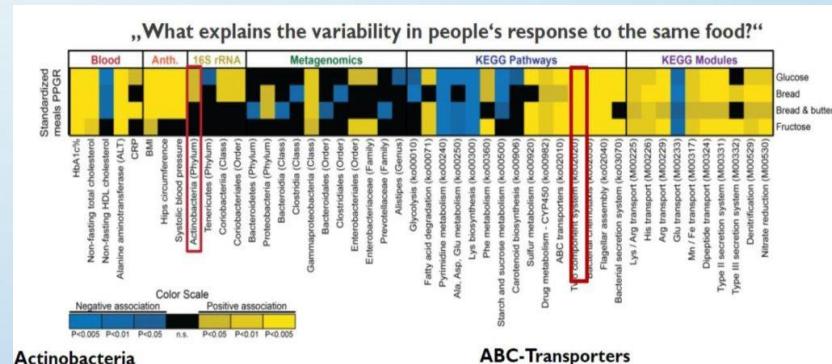
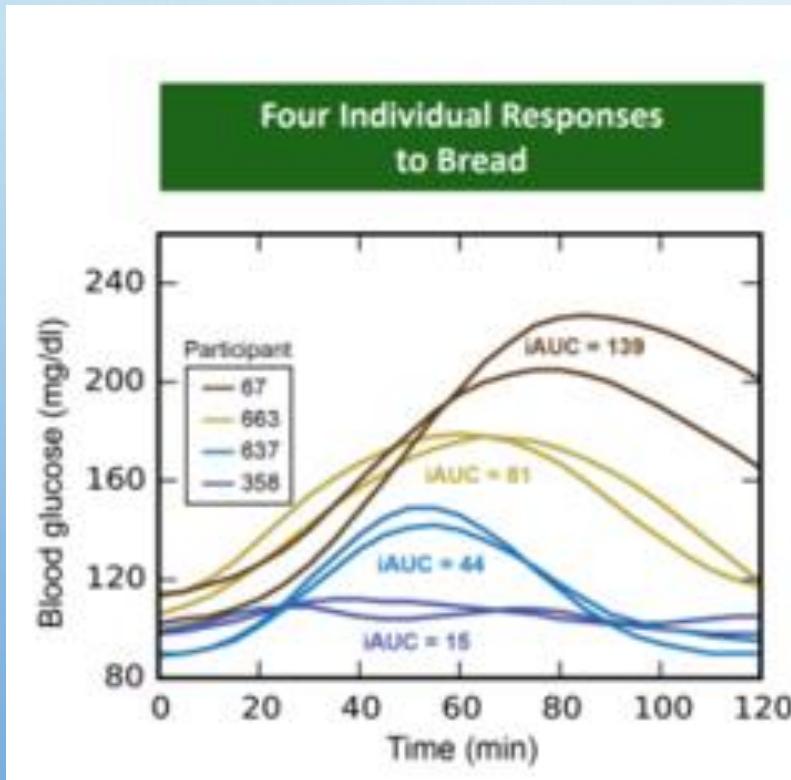
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Increased Sirtuin expression, senescence regulating miRNAs, mtDNA, and bifidobacteria correlate with wellbeing and skin appearance after Sirtuin- activating drink

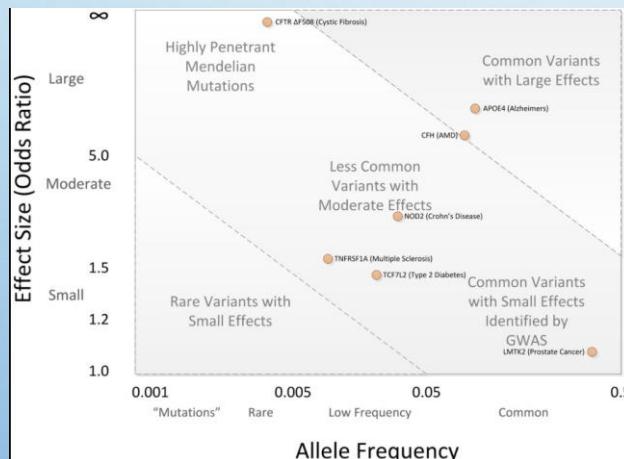
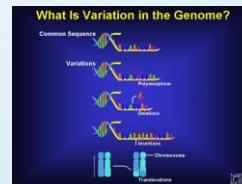
Stephanie Lilja, Hanna Bäck, Carinna Stoll, Anna Mayer, Angelika Pointner, Berit Hippe, Ulrike Krammer, Alexander G. Haslberger*

PERSONALISED NUTRITION: HIGHLY DIFFERENT PERSONAL RESPONSES TO DIETS, GLYCEMIC RESPONSES, EXPLANATIONS?



Different people have different, opposite responses to standardized meal, bread, Zeevi et al., 2015, Cell

GENETICS: GWAS : SNPs, COMMON VARIANTS HAVE OFTEN ONLY MODERATE EFFECTS

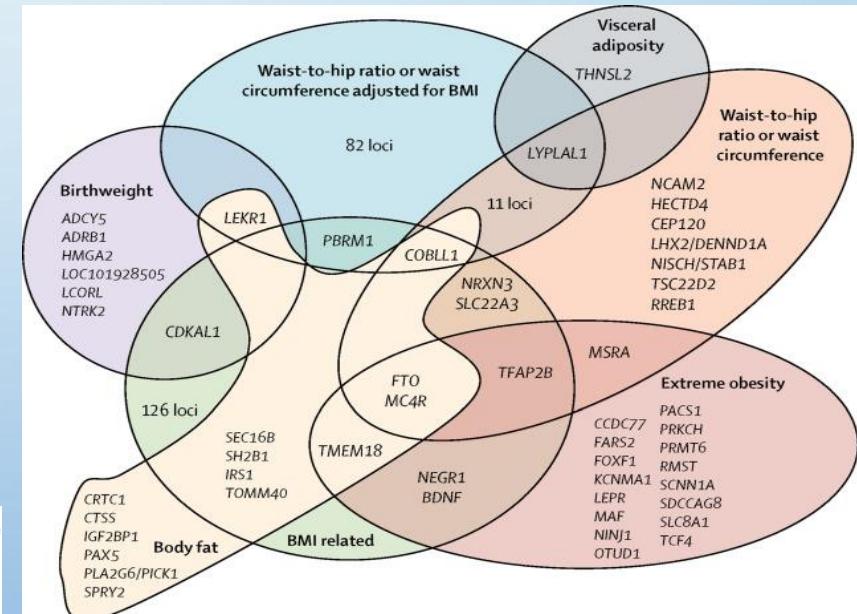


Methods

Prediction of individual genetic risk to disease from genome-wide association studies

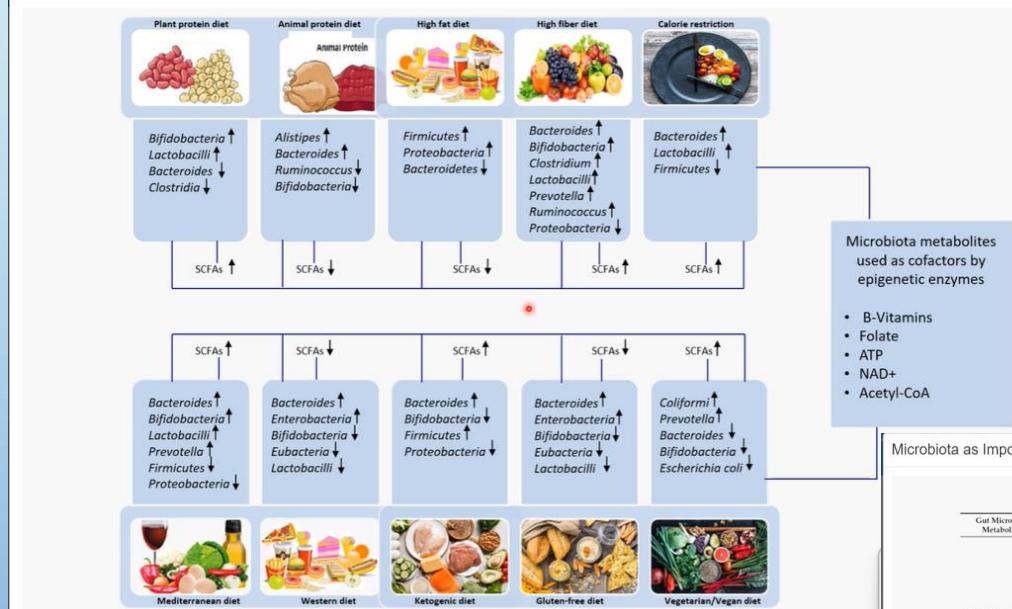
Naomi R. Wray,^{1,4} Michael E. Goddard,^{2,3} and Peter M. Visscher¹

¹Genetic Epidemiology, Queensland Institute of Medical Research, Queensland 4029, Brisbane, Australia; ²Faculty of Land and Food Resources, University of Melbourne, Victoria 3010, Australia; ³Department of Primary Industries, Victoria 3049, Australia



INTERACTIONS BETWEEN DIETS, MICROBIOTA AND EPIGENETICS ARE MORE IMPORTANT, EXPERIENCE

Microbiota as Important Mediator Between Diet and DNA Methylation and Histone Modifications in Host



Microbiota as Important Mediator Between Diet and DNA Methylation and Histone Modifications in

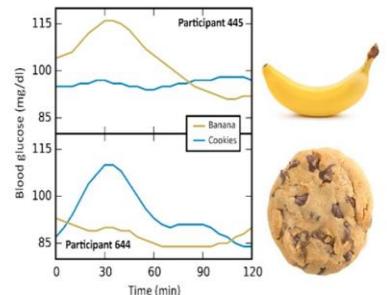
Gut Microbiota Metabolites	Metabolite Producing Bacteria	Biological Functions of Metabolites	Metabolite-Induced Epigenetic Changes	Epigenetic-Associated Effects	Associated Diseases
Short-chain fatty acids (SCFAs): Acetate, propionate, butyrate, iso-butyrate, caproate, branched SCFAs (BSCFAs), isovalerate, lactate, 2-methylpropionate, valerate, iso-valerate	Lactobacillus, Escherichia coli, <i>Anerobacteriaceae</i> , <i>Enterobacteriaceae</i> , <i>Facultativum</i> , <i>Coprococcus</i> , <i>Clostridia</i> (clusters IV and XIVa)	<ul style="list-style-type: none"> Regulation of: fatty acid, glucose, and cholesterol metabolism microbiome symbiosis synthesis of AMPs daily turnover of the epithelial lining and stem cell proliferation gut integrity by Tls neutrophil functions differentiation and function of Th1, Th2, and regulatory T (Treg) cells intestinal homeostasis inflammation and recruitment dendritic cells in the induction of tolerance Suppression of pro-inflammatory cytokines Improvement in insulin sensitivity and weight control Energy source for colonocytes 	<ul style="list-style-type: none"> Inhibition of DNMT enzymes Decreased DNA methylation Inhibition of MBD2 Inhibition of HDACs Inhibition of histone acetylation Activation of HAT Increased histone acetylation 	<ul style="list-style-type: none"> Upregulation of FOXO1, β-defensin 2, <i>CD36</i>, <i>CDQO</i>, <i>RETN</i>, <i>Spi-B/p53</i>, <i>BAK1</i>, <i>CDKN1A</i>, <i>CDKN1B</i>, <i>CDKN2A</i>, <i>DNMT3A</i>, <i>DNMT3B</i>, <i>FN1</i>, <i>FAS</i>, <i>NOS2</i>, <i>IL-6</i>, <i>IL-8</i>, <i>IL-10</i>, <i>IL-12</i>, <i>IL-17</i>, <i>IL-22</i>, <i>IL-23</i>, <i>IL-27</i>, <i>IL-31</i>, <i>IL-33</i>, <i>IL-36</i>, <i>IL-37</i>, <i>IL-39</i>, <i>IL-40</i>, <i>IL-41</i>, <i>IL-42</i>, <i>IL-43</i>, <i>IL-44</i>, <i>IL-45</i>, <i>IL-46</i>, <i>IL-47</i>, <i>IL-48</i>, <i>IL-49</i>, <i>IL-50</i>, <i>IL-51</i>, <i>IL-52</i>, <i>IL-53</i>, <i>IL-54</i>, <i>IL-55</i>, <i>IL-56</i>, <i>IL-57</i>, <i>IL-58</i>, <i>IL-59</i>, <i>IL-60</i>, <i>IL-61</i>, <i>IL-62</i>, <i>IL-63</i>, <i>IL-64</i>, <i>IL-65</i>, <i>IL-66</i>, <i>IL-67</i>, <i>IL-68</i>, <i>IL-69</i>, <i>IL-70</i>, <i>IL-71</i>, <i>IL-72</i>, 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CORRELATION OF MICROBIOTA STRUCTURE WITH GLYCEMIC RESPONSES USED FOR ALGORITHMS FOR DIETARY ADVICE

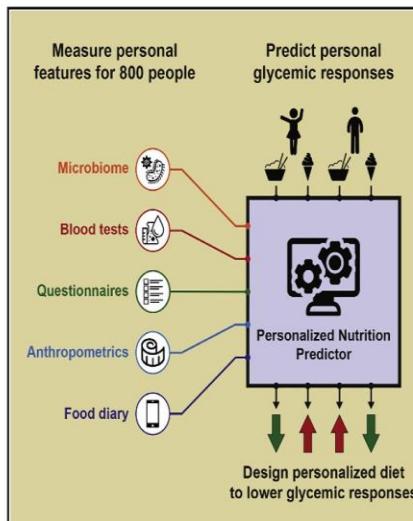
Beispiel - Personalized Nutrition by Prediction of Glycemic Responses

David Zeevi, 2016

- 800 Personen – jeder hat andere „post meal Glucose response“



Mikrobiota Zusammensetzung beeinflusst Blutglucoselevel



Israeli Startup DayTwo Offers Personalized Nutrition

Globes

Eran Elinav and Eran Segal, Weizmann Institute of monitoring the blood sugar, diets, and other traits of 800 people, they built an algorithm that can accurately predict how a person's blood-sugar levels will spike after eating any given meal.

They also used these personalized predictions to develop tailored dietary plans for keeping blood sugar in check.

The screenshot shows a mobile application interface for 'BIOMES' (biomes.world). At the top, there is a navigation bar with a back arrow, a lock icon, the text 'Auswertung - BIO...', a share icon, a search icon, and a more options icon. The main content area has a teal header with the 'BIOMES' logo. Below the header, the text 'Zusammenfassung' is displayed. The first section, 'Deine Schwächen' (Your Weaknesses), lists three items with exclamation marks: 'Proteo-Index', 'Schutz der Darmschleimhaut', and 'Darmschleimhaut und Immunität'. The second section, 'Deine Stärken' (Your Strengths), lists nine items with checkmarks: 'Diversitäts-Index', 'Entzündungsindikatoren', 'Verstopfungsindikatoren', 'Appetit und Cholesterinspiegel', 'Energiestoffwechsel und Übersäuerung', 'Zellgifte', 'Herz-Kreislauf-Beeinflusser', 'Schlaf und Gemütszustand', 'Kalorienaufnahme', and 'Dein Darmfloratyp: 1'. The bottom right corner of the main content area has a small green button with an upward arrow.

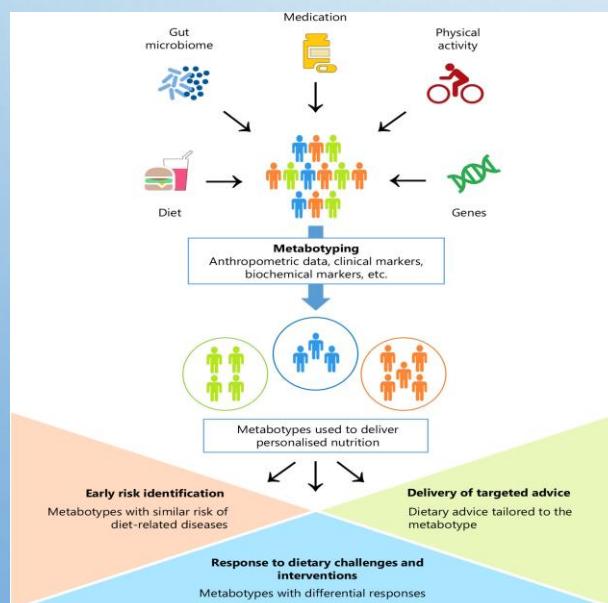
DEFINITION OF METABOTYPES FROM GENETIC-, MICROBIOTA- BASED INFORMATION, METABOTYPING, FOOD4ME

 food4me.org 

Does personalised nutrition work?

Professor John Mathers, Newcastle University, UK

John Mathers leads work on the design, delivery and evaluation of outcomes from the Food4Me project's Proof-of-Principle study. He is professor of human nutrition and director of the Human Nutrition Research Centre, Newcastle University, UK.



Molecular Nutrition & Food Research

Research Article | Open Access |   

Evaluation of the Metabotype Concept Identified in an Irish Population in the German KORA Cohort Study

Anna Riedl, Elaine Hillesheim, Nina Wawro, Christa Meisinger, Annette Peters, Michael Roden, Florian Kronenberg, Christian Herder, Wolfgang Rathmann, Henry Völzke, Martin Reincke ... See all authors 

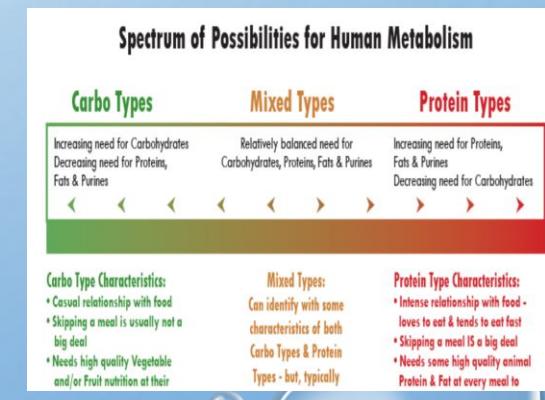
First published: 11 February 2020 | <https://doi.org/10.1002/mnfr.201900918> | Citations: 1

Hillesheim et al. *Nutr Metab (Lond)* (2020) 17:82
<https://doi.org/10.1186/s12986-020-00499-z> Nutrition & Metabolism

RESEARCH **Open Access** 

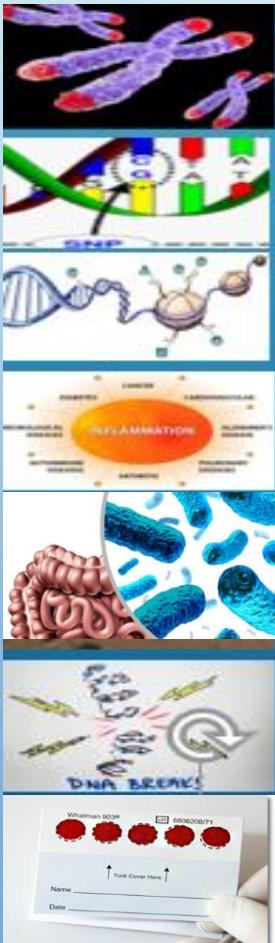
Optimisation of a metabotype approach to deliver targeted dietary advice

Elaine Hillesheim^{1,2}, Miriam F. Ryan¹, Eileen Gibney¹, Helen M. Roche^{2,3} and Lorraine Brennan^{1,2} 



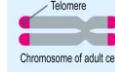
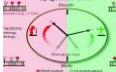
Personalisation of Additives for Prevention: Monitoring basic hallmarks of health/aging.

Use of mixes of supplements, functional foods which address specific mechanisms



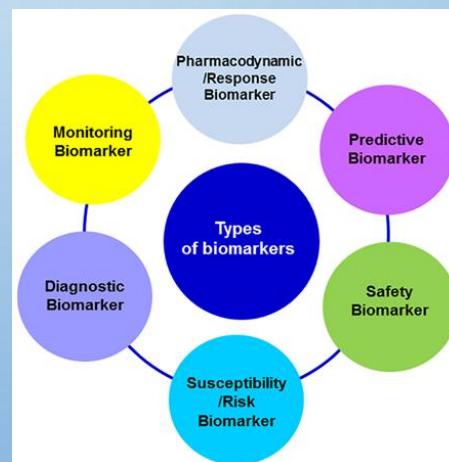
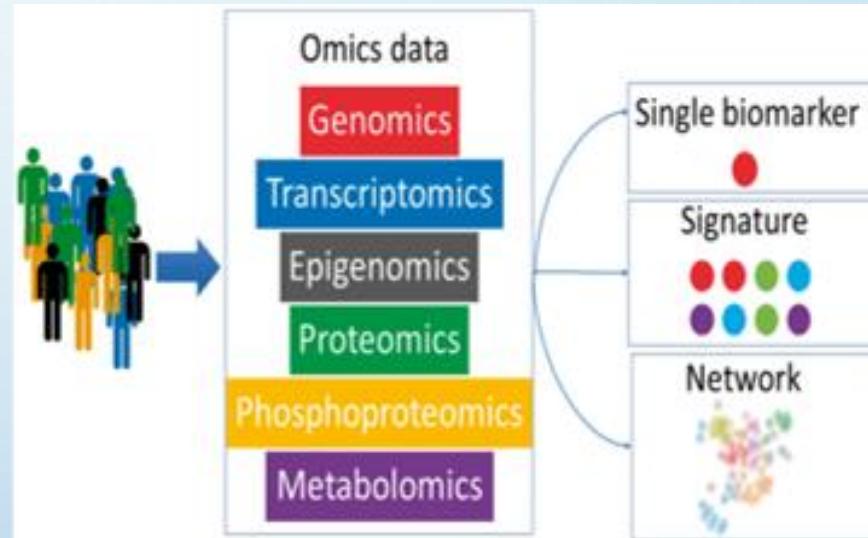
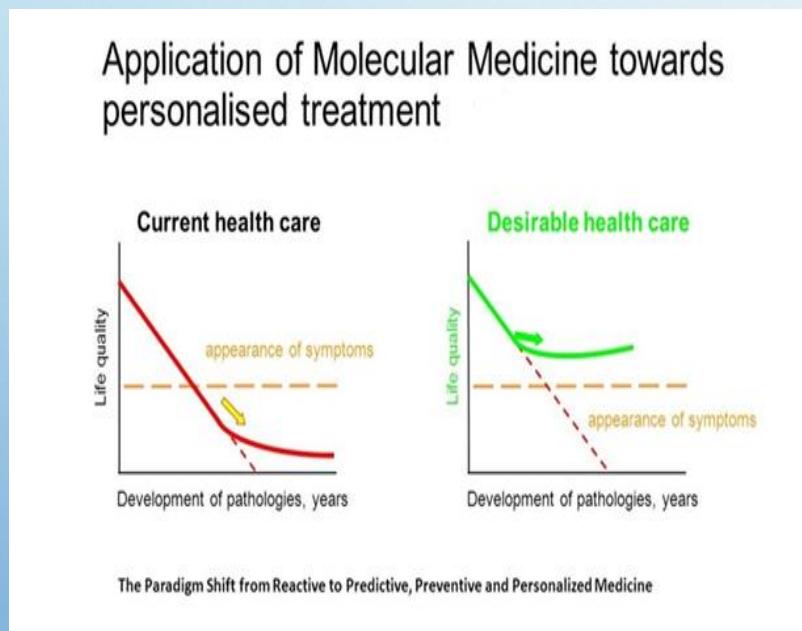
Precision Probiotics +
Prebiotics with Viome's
Gut Intelligence™ Test
For gut health

EPIGENETIC EFFECTS OF PHYTOCEUTICALS USING EPIGENETIC BIOMARKERS FOR PERSONALISED INTERVENTION

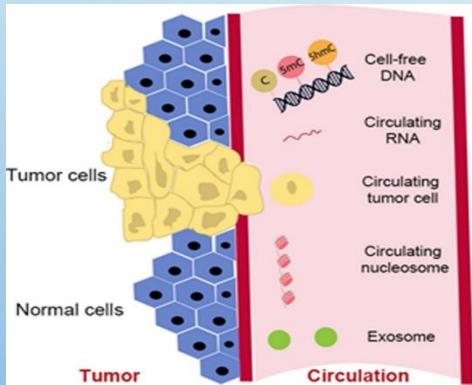
											
Spermidine Curcumin Phloretine Fisetin	Sirtfoodshot Resveratrol Phloretin Fisetin Sulforaphan	Timeblock Resveratrol vegan Vit . D 3 Tocotrienole Quercetin White-Tea Extract Ginseng Grapefruit Extract Tagetes Extract Omega 3 Mix	Resveratrol Sulforaphan Tocotrienole Quercetin Curcumin Folate Pomegranate Extract White-Tea Extract Broccoli Extract Blueberry Extract EU Apple Extract Strawberry Extract Mango Extract Omega 3 Mix Hyalurone	EGCG Vit B 12 Quercetin Folate	Virmune Tegaran Zhen Hua	Galactooligos. Sirtfood Shot Butyrate Ginseng Grapefruit Extract	Hyaluron Sirtfood Shot Butyrate Ginseng Grapefruit Extract	EGCG Sagepolyphenols Phloretin Berberin Quercitin Resveratrol Virmune	Methionin Folsäure Sulforaphan	Butyrate Gingerol Quercetin White-Tea Extract Broccoli Extract Apple Extract Olive Leaf powder Ginseng Grapefruit Extract Tagetes Extract Omega 3 Mix	Resveratrol Curcumin White-Tea Extract Broccoli Extract Tagetes Extract Omega 3 Mix



DISCUSSION: PREVENTIVE PERSONALISED (PRECISION) MEDICINE, NUTRITION NEEDS GOOD MARKERS



GOOD MARKERS: COMBINATIONS!



Haslberger 2022



Article

Comprehensive Approach to Distinguish Patients with Solid Tumors from Healthy Controls by Combining Androgen Receptor Mutation p.H875Y with Cell-Free DNA Methylation and Circulating miRNAs

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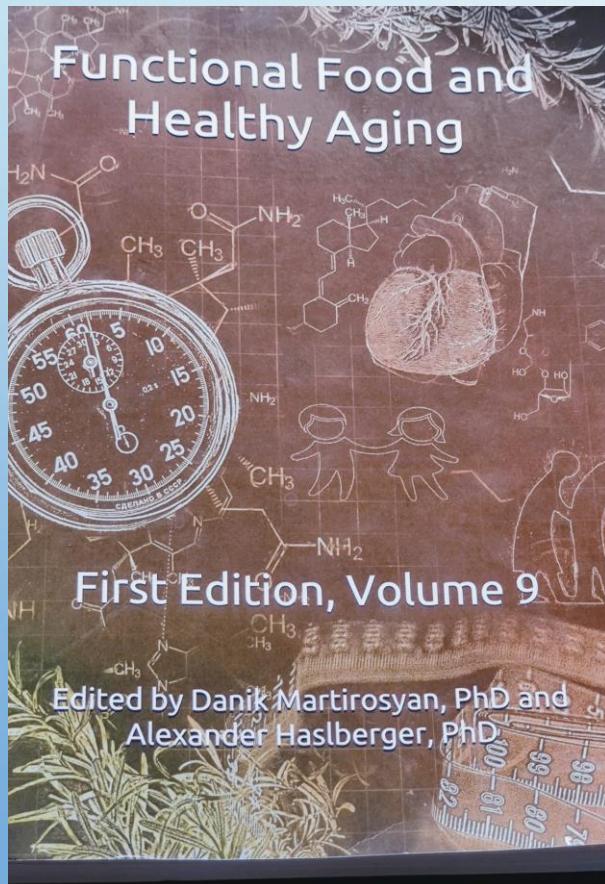


Citation: Tomeva, E.; Switzeny, O.J.; Heitzinger, C.; Hippe, B.; Haslberger, A.G. Comprehensive Approach to Distinguish Patients with Solid

Simple Summary: Blood-based tests for cancer detection are minimally invasive and could be useful for screening asymptomatic patients and high-risk populations. Since a single molecular biomarker is usually insufficient for an accurate diagnosis, we developed a multi-analyte liquid biopsy-based classification model to distinguish cancer patients from healthy subjects. The combination of cell-free DNA mutations, miRNAs, and cell-free DNA methylation markers improved the model's performance. Moreover, we demonstrated that the androgen receptor mutation p.H875Y is not only relevant in prostate cancer but had a strong predictive value for colorectal, bladder, and breast cancer. Our results, although preliminary, showed that a single liquid biopsy test could detect multiple cancer types simultaneously.

Slides and materials:

www.My-Personal.Health



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Info, presentations, articles, meetings, downloads
Alexander G Haslberger

Conferences and media

Articles in Researchgate >>> Scopus >>> Orcid >>>
• TV- ProSieben ; Pro 7 featuring our work, aging >>>
• AKE Jahrestagung, 102021; Microbiota and lifestyle >>>
• The Paris conference on targeting microbiota, 2021, summarizes the newest research, especially the session on gut host interactions.
<https://www.microbiota-site.com/> this is our contribution:
<https://youtu.be/c2PROMbAn0>

• Conference personalised nutrition, University Heilbronn, Oct 5th, 2021
>>> personalised nutrition; my presentation >>>
• Conference OeGE, Vienna, Nov. 2020 Personalised Nutrition, >>>
• Sigmund Freud University 2020: Health,epigenetics and Salutogenesis; Vienna, 2020/8 >>>

COMING END OF OCTOBER 2022

Advances in Precision Nutrition, Personalization and Healthy Aging

Editor Proof

 Springer

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Supported by FFG funds

