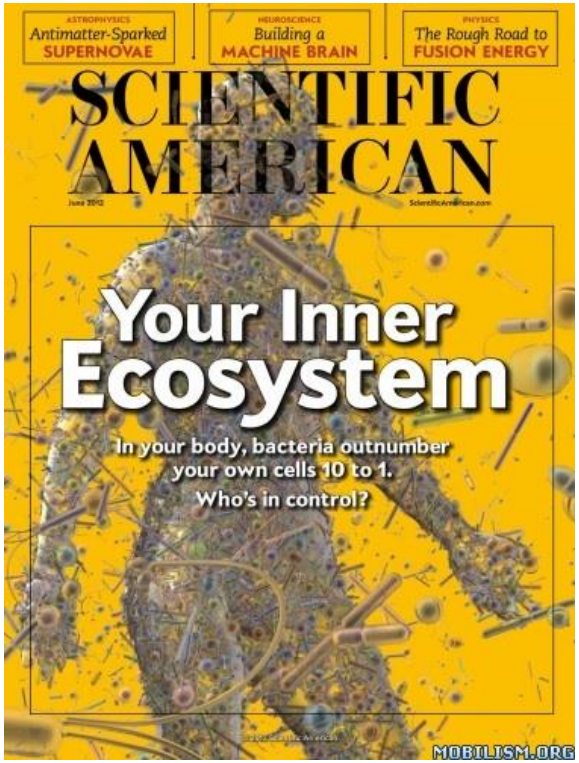
Probiotici e disturbi funzionali

Ruggiero Francavilla, MD PhD

Consultant in Pediatric Gastroenterology & Hepatology
Senior Lecturer in Pediatrics
Dpt Biomedicina Età Bioevolutiva
University of Bari - Italy

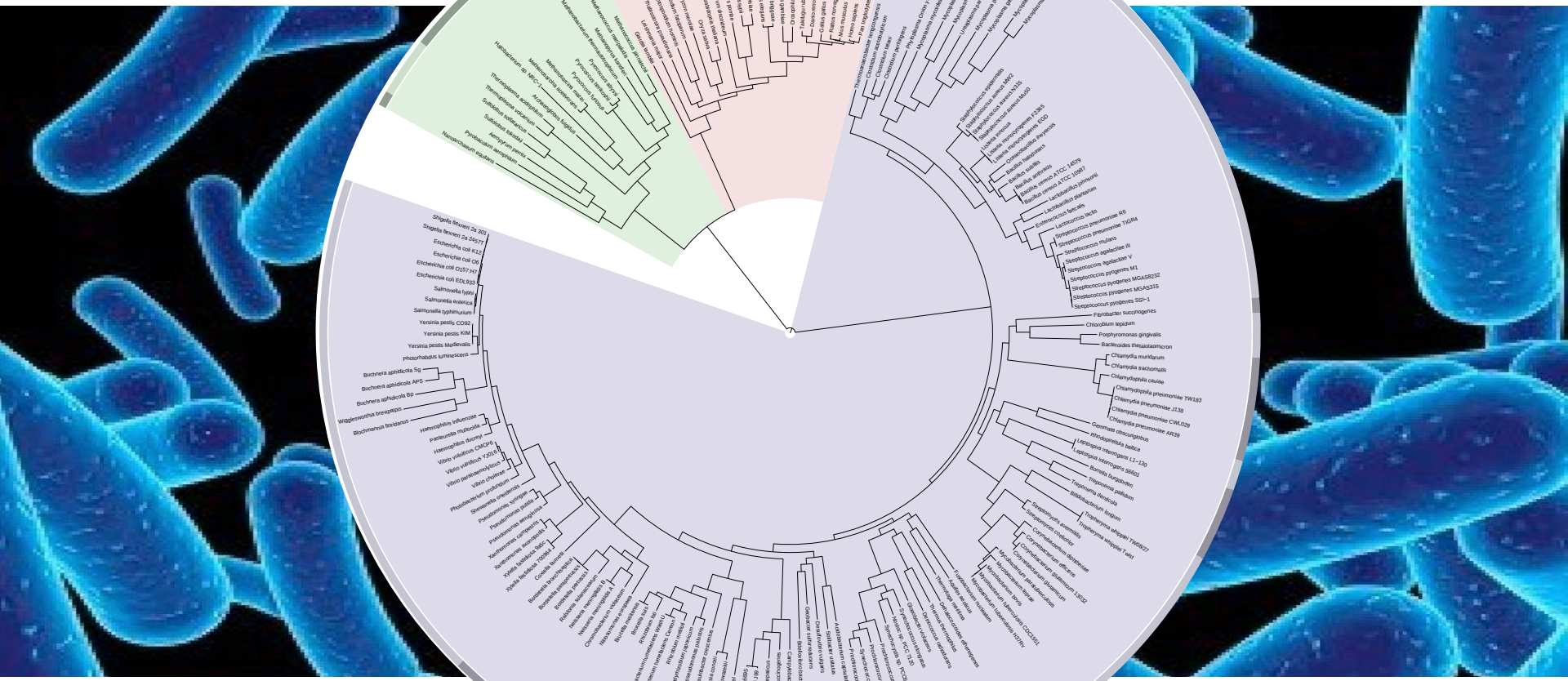
Il 2012 anno del microbiota



L'albero della vita

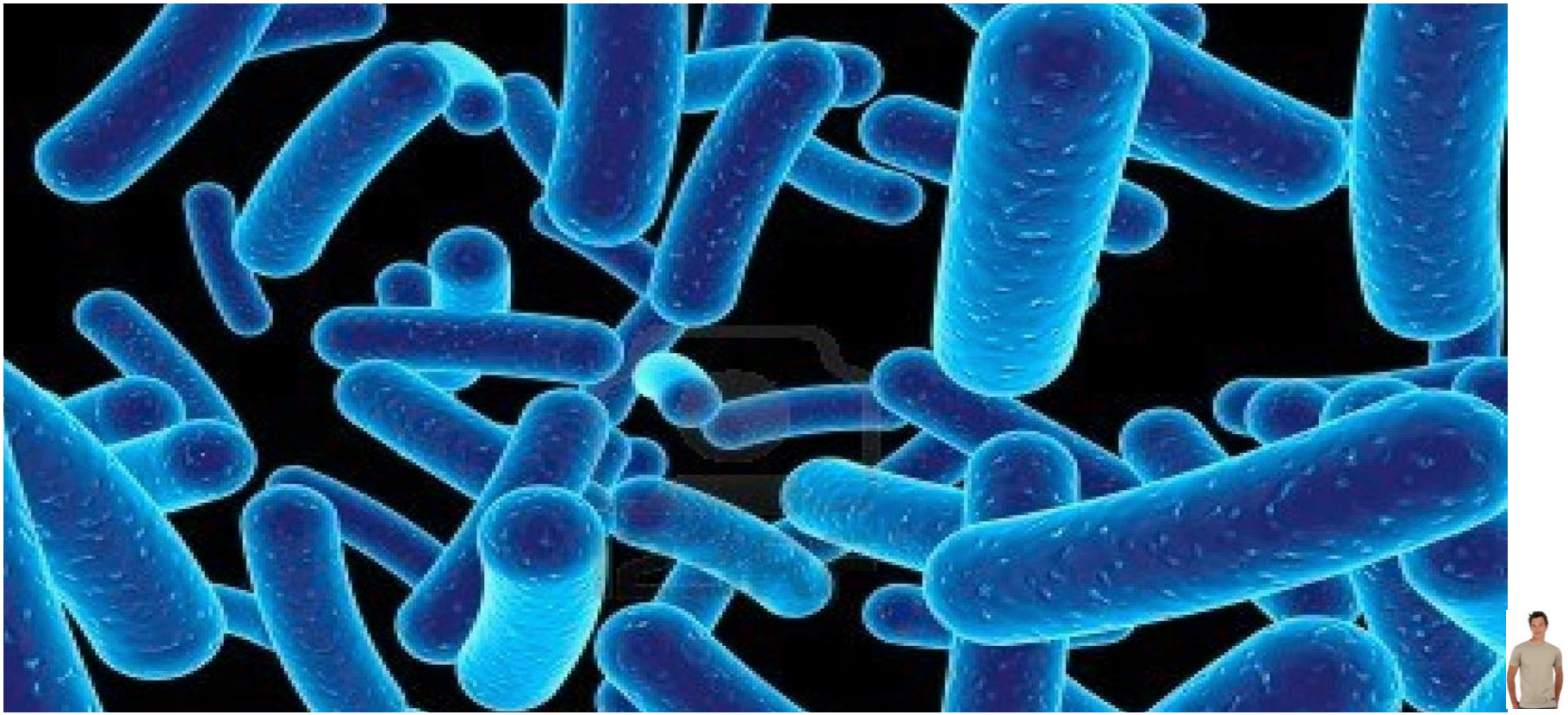
http://itol.embl.de/

L'albero della vita



http://itol.embl.de/

I batteri sono i padroni del mondo



Procarioti

4 miliardi /anni

Uomo

8 milioni/anni

Sono da un tempo ca 400 maggiore rispetto all'uomo

Nature. 2006;441:714

Noi ed i batteri

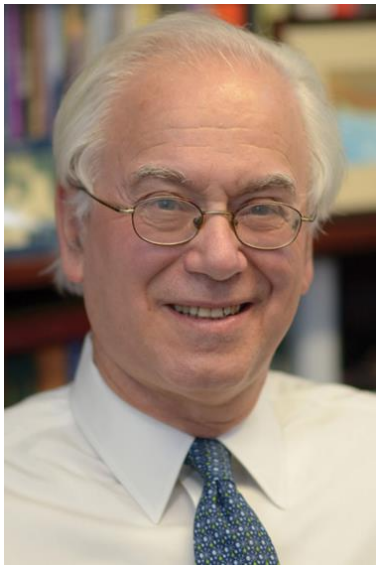
Se i **4 miliardi** di anni della terra equivalessero a **24 ore** l'uomo apparirebbe alle **23:59:30** ed il "*sapiens*" gli **ultimi 5 secondi**

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

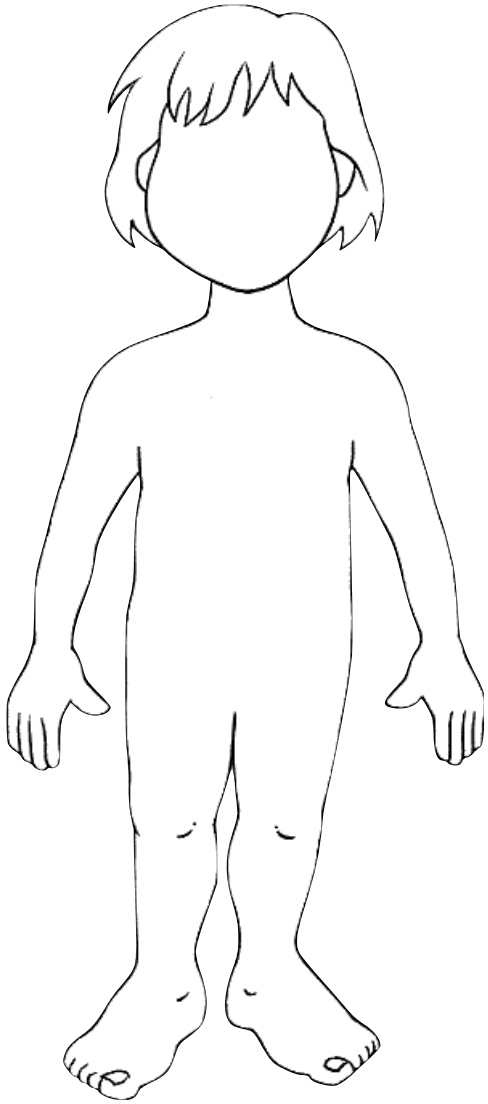
Who are we?

Indigenous microbes and the ecology of human diseases

Martin J. Blaser



Martin J. Blaser is the Frederick H. King Professor of Internal Medicine, the Chair of the Department of Medicine and a Professor of Microbiology at New York University School of Medicine, New York, USA.
E-mail: martin.blaser@med.nyu.edu



Blaser MJ. EMBO Rep. 2006;7:956

Chi siamo?

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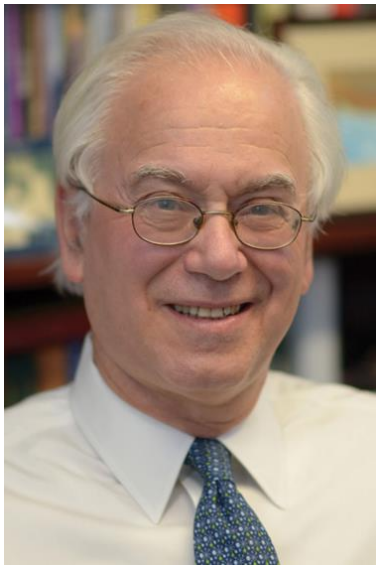

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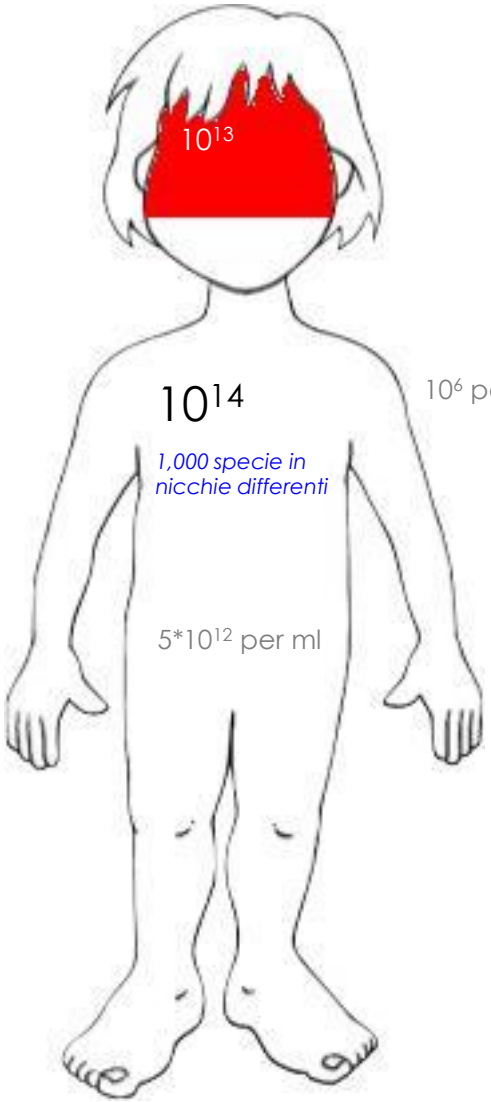

10x

Microbiota:

Assemblaggio massivo di batteri concorrenti e cooperanti.

Blaser MJ. EMBO Rep. 2006;7:956

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

Who are we?

Indigenous microbes and the ecology of human diseases

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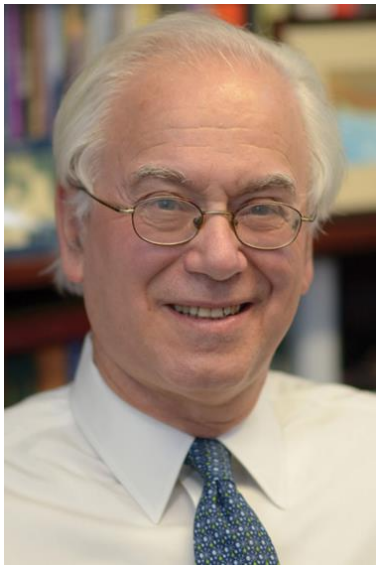

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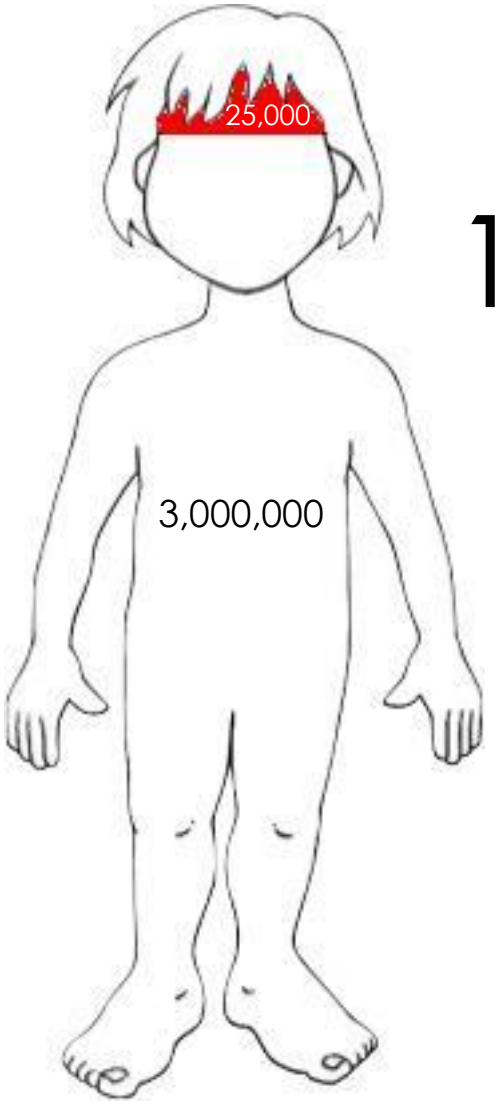


100x

Microbioma:

Insieme di geni microbici.

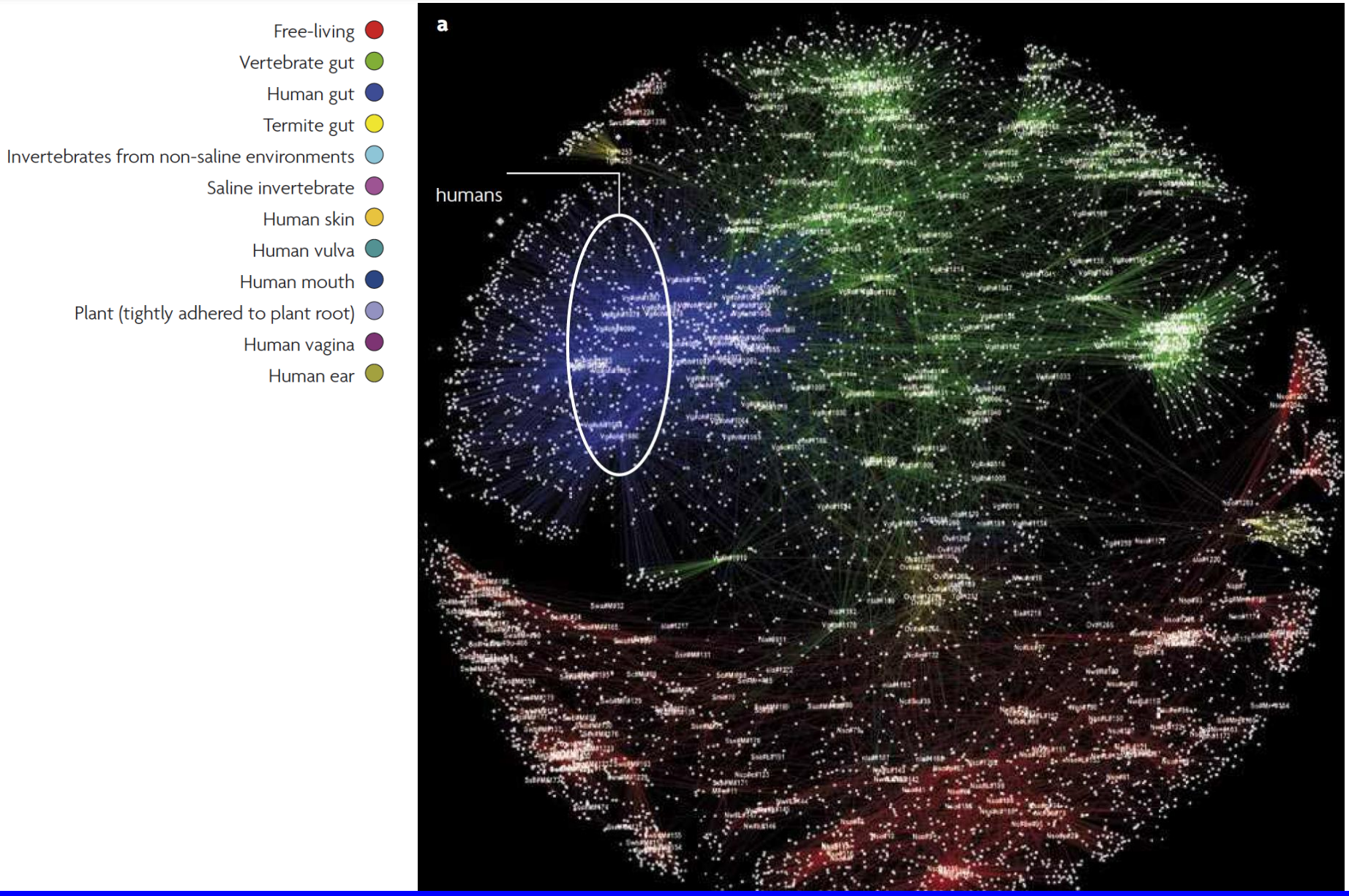
Blaser MJ. EMBO Rep. 2006;7:956

Super-organismo

"You may be born 100% human
but you will die 90% microbial"

Science 2000;288:287

Ingresso su invito



Ad ognuno il suo!

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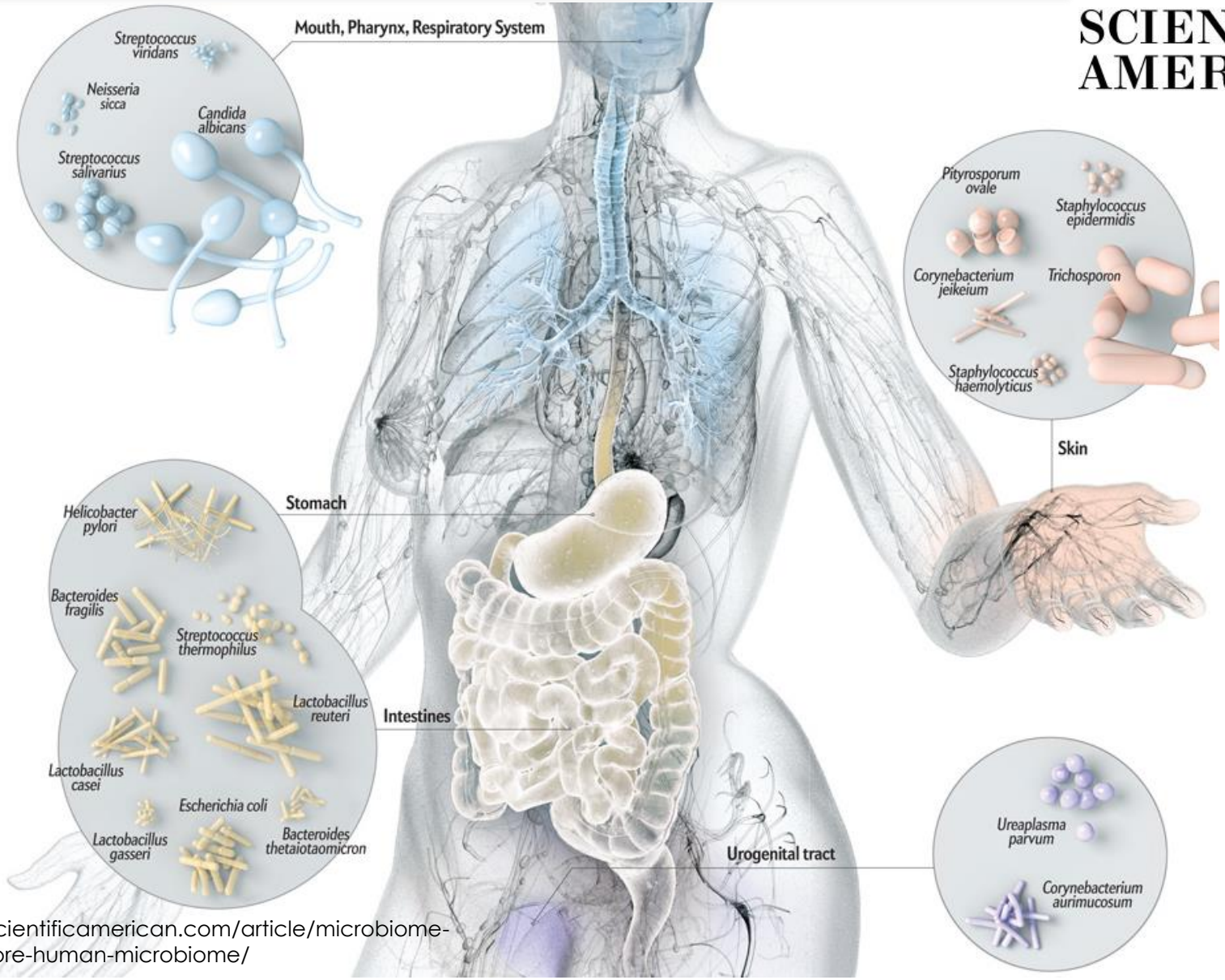
SCIENTIFIC AMERICAN™



http://www.scientificamerican.com/article/microbiome-graphic-explore-human-microbiome/

Pressione evolutiva bidirezionale

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Stable envrovment

Habitat

Food

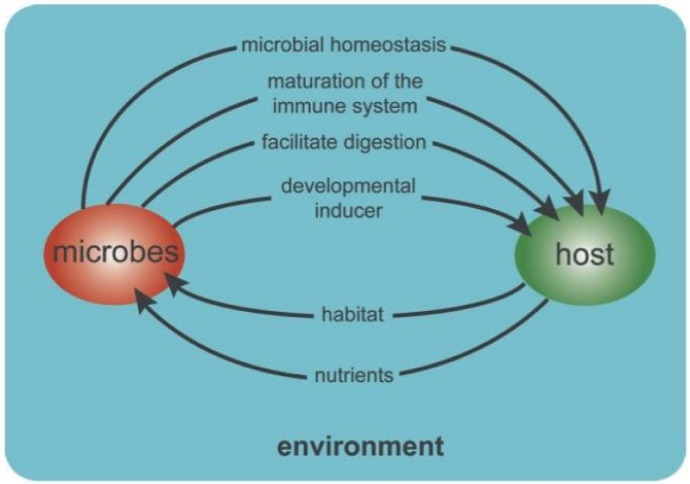
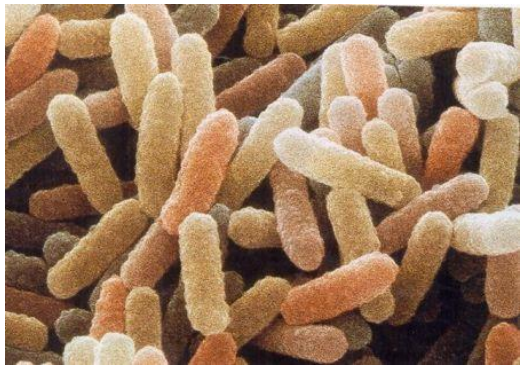


Figure 6. Schematic view of the interactions between host organisms and their microbiota.



Immune-modulation

Metabolic activities

Ann Rev Gen 2008;42:165

Il lattante del koala

http://www.sydneycloseup.com/baby-koala.html

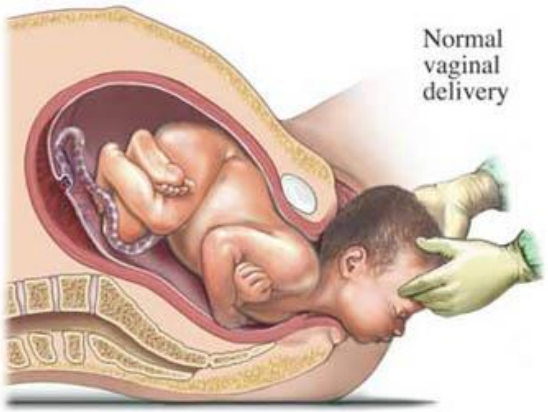
Il parto vaginale

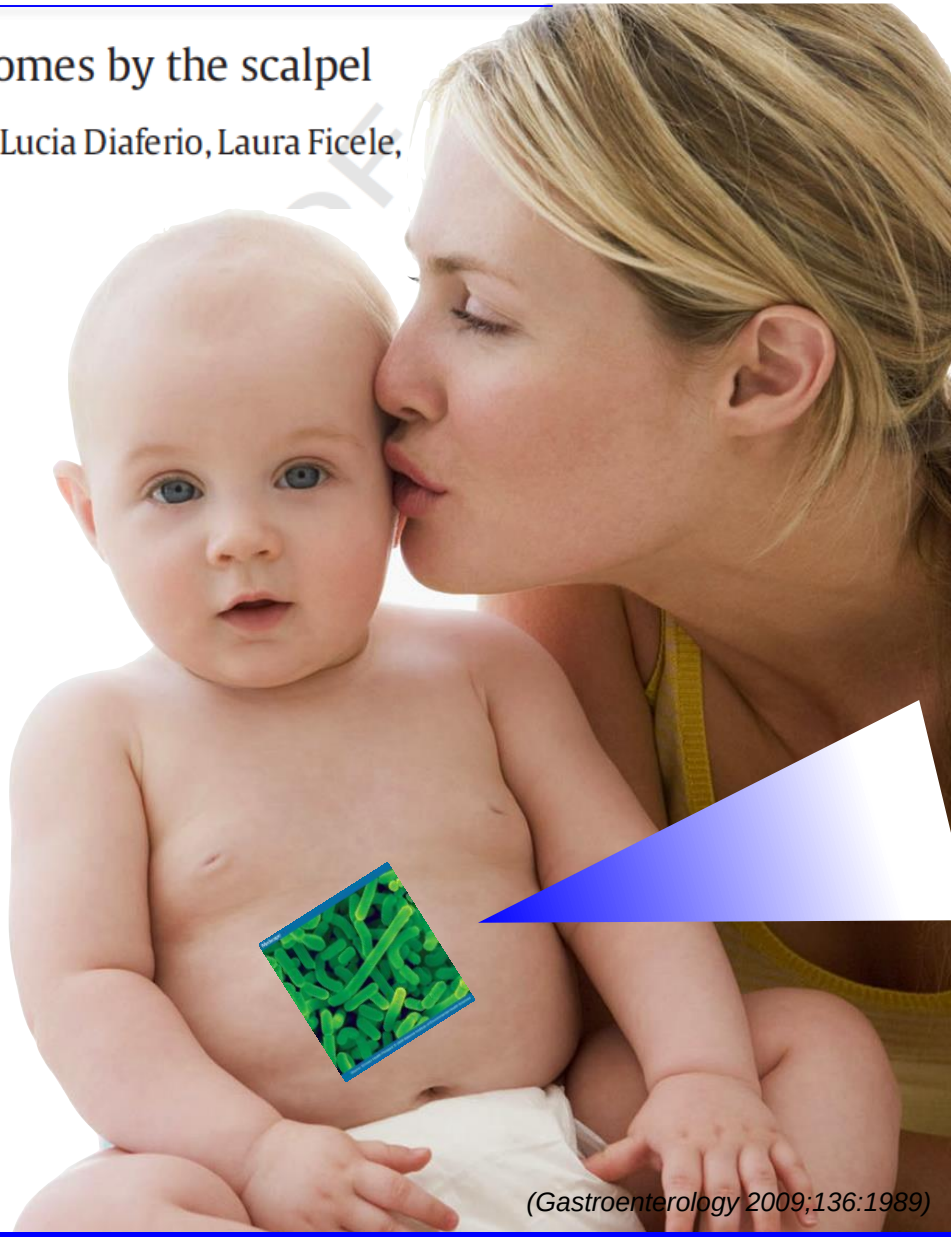
UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

Gut microbiota biomodulators: When the stork comes by the scalpel

Vito Leonardo Miniello *, Angela Colasanto, Fernanda Cristofori, Lucia Diaferio, Laura Ficele, Valentina Santoiemma, Ruggiero Francavilla

La madre con il parto vaginale tramette al bambino il microbiota ideale selezionato in milioni di anni di evoluzione e meglio compatibile con il suo patrimonio genetico





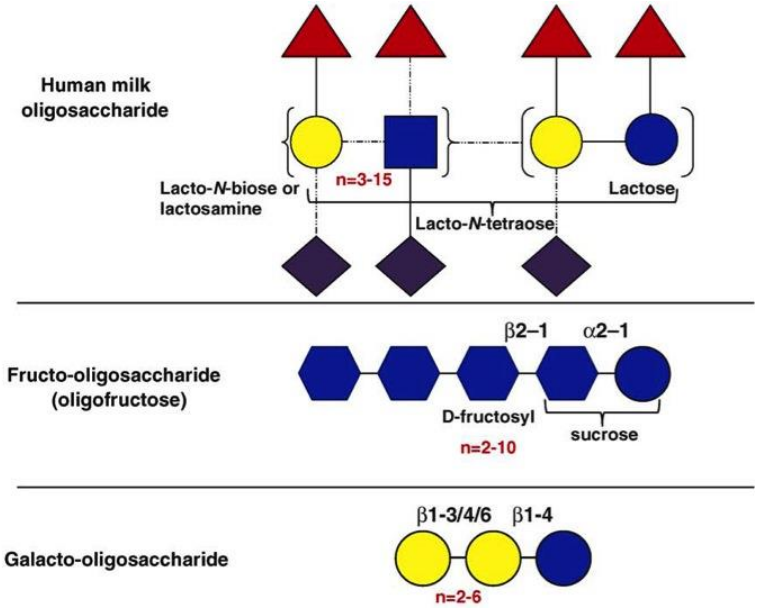
(Gastroenterology 2009;136:1989)

Accoglienza su.. invito

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

Nursing our microbiota: molecular linkages between bifidobacteria and milk oligosaccharides

David A. Sela[1,2,3] and David A. Mills[2,3,4]



La presenza di oligo-frutto saccaridi nel latte materno non hanno un elevato valore nutrizionale per il lattante ma supportano la crescita di un microbiota salutare per il bambino.

Allattamento materno nasce 160 MA fa

Migliaia di possibili combinazioni ma solo 200 il BM che sono quelle meglio utilizzabili dal MI del lattante mentre per altri batteri si comportano da substrati che possono legarli ed allontanarli dall'intestino

(selezione attiva e passiva)

FA, IgAs, lattoferrina, lisozoma, modulatori immunitari, G(F)OS

Colonizzazione

Neonatologi e pediatri hanno in mano il futuro del nostro microbioma

Bocca
Cute
Vagina
Feci

Ruolo del pediatra

La formazione del microbiota intestinale si consolida nei primi tre anni di vita

Equilibio olobionte – ologenoma - ambiente

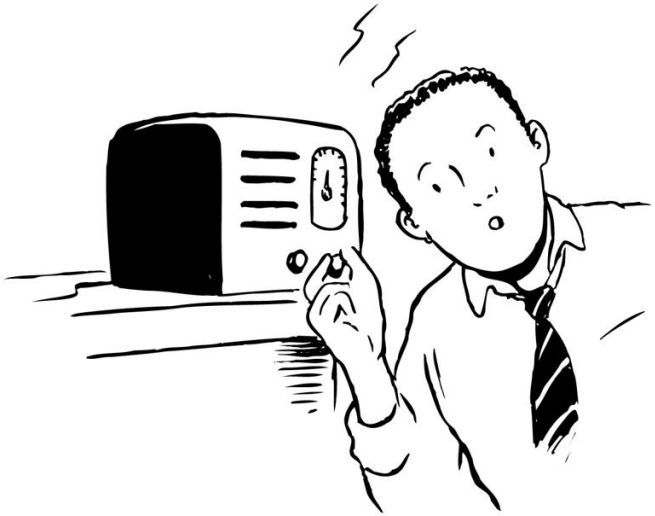
UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

EUBIOSI

genoma

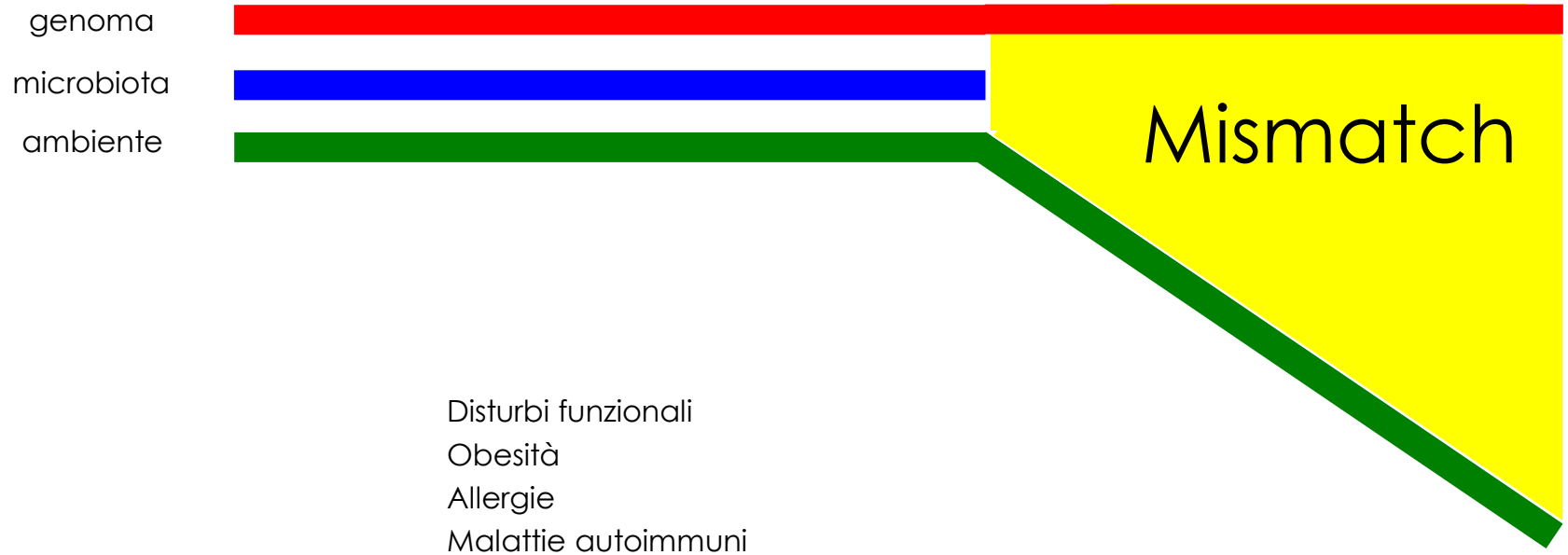
microbiota

ambiente



Nat Rev Microbiol. 2009;7:887

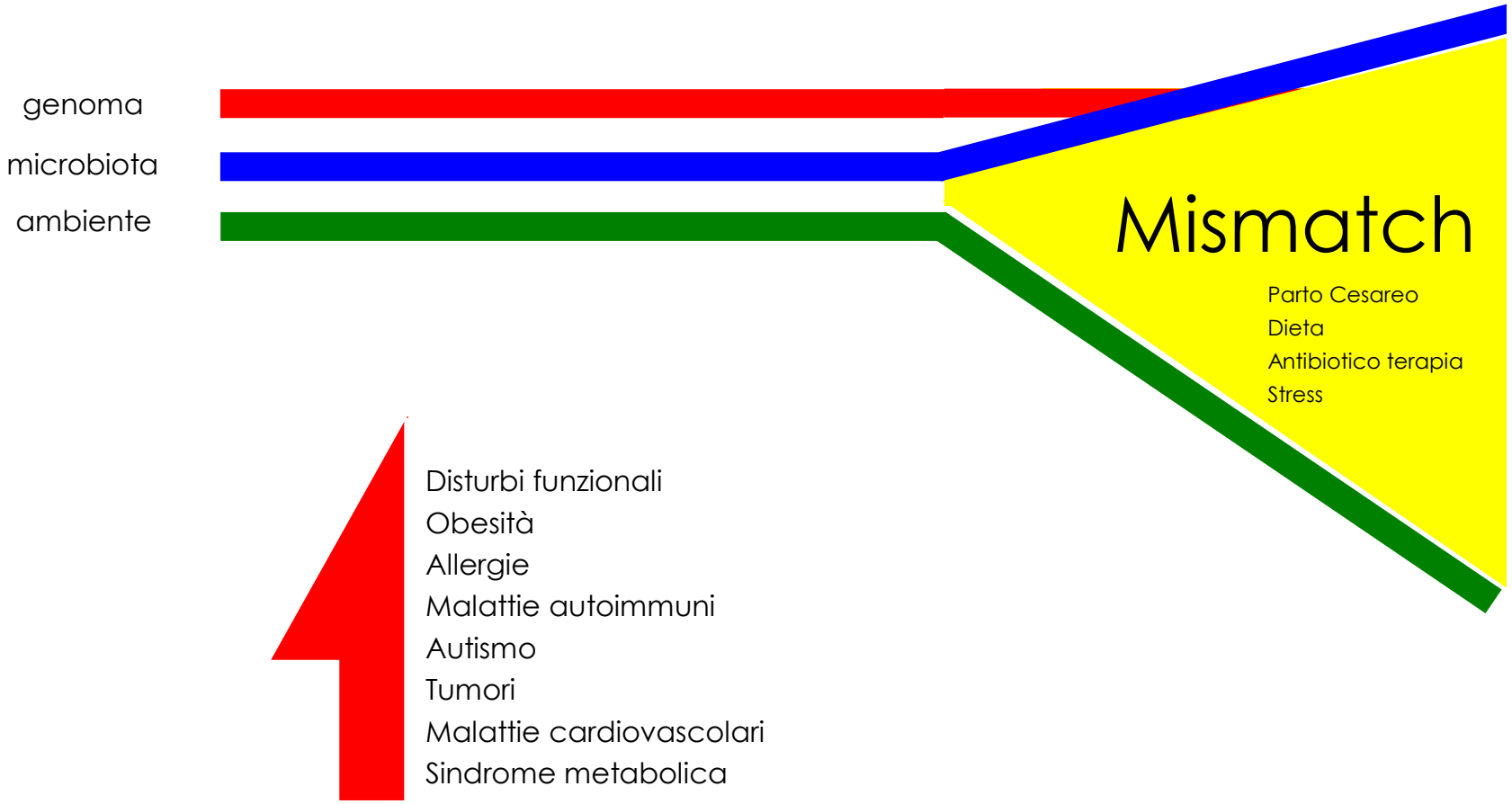
Teoria del Mismatch



Disturbi funzionali
Obesità
Allergie
Malattie autoimmuni
Autismo
Tumori
Malattie cardiovascolari
Sindrome metabolica

Nat Rev Microbiol. 2009;7:887

Teoria del Disappearing microbiota



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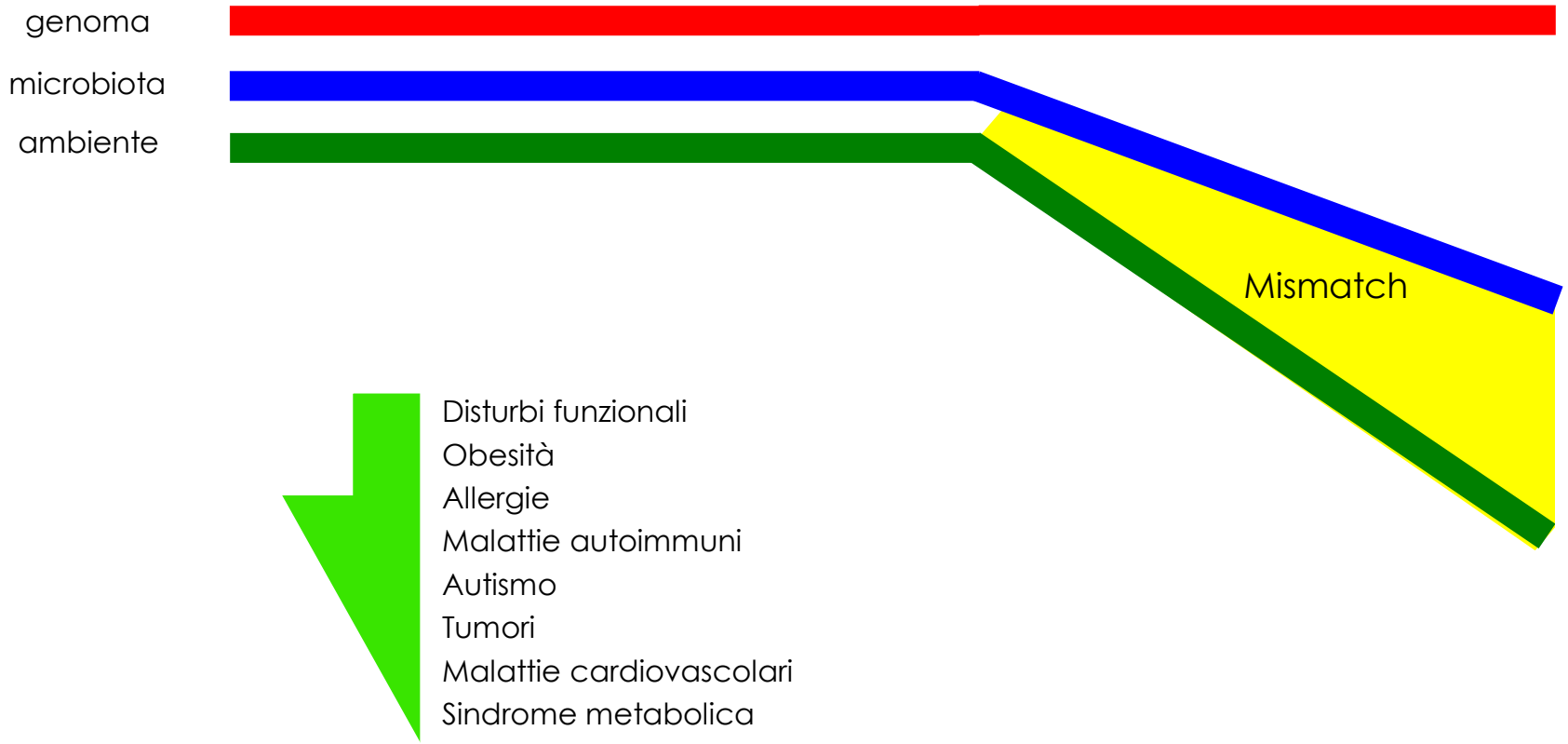
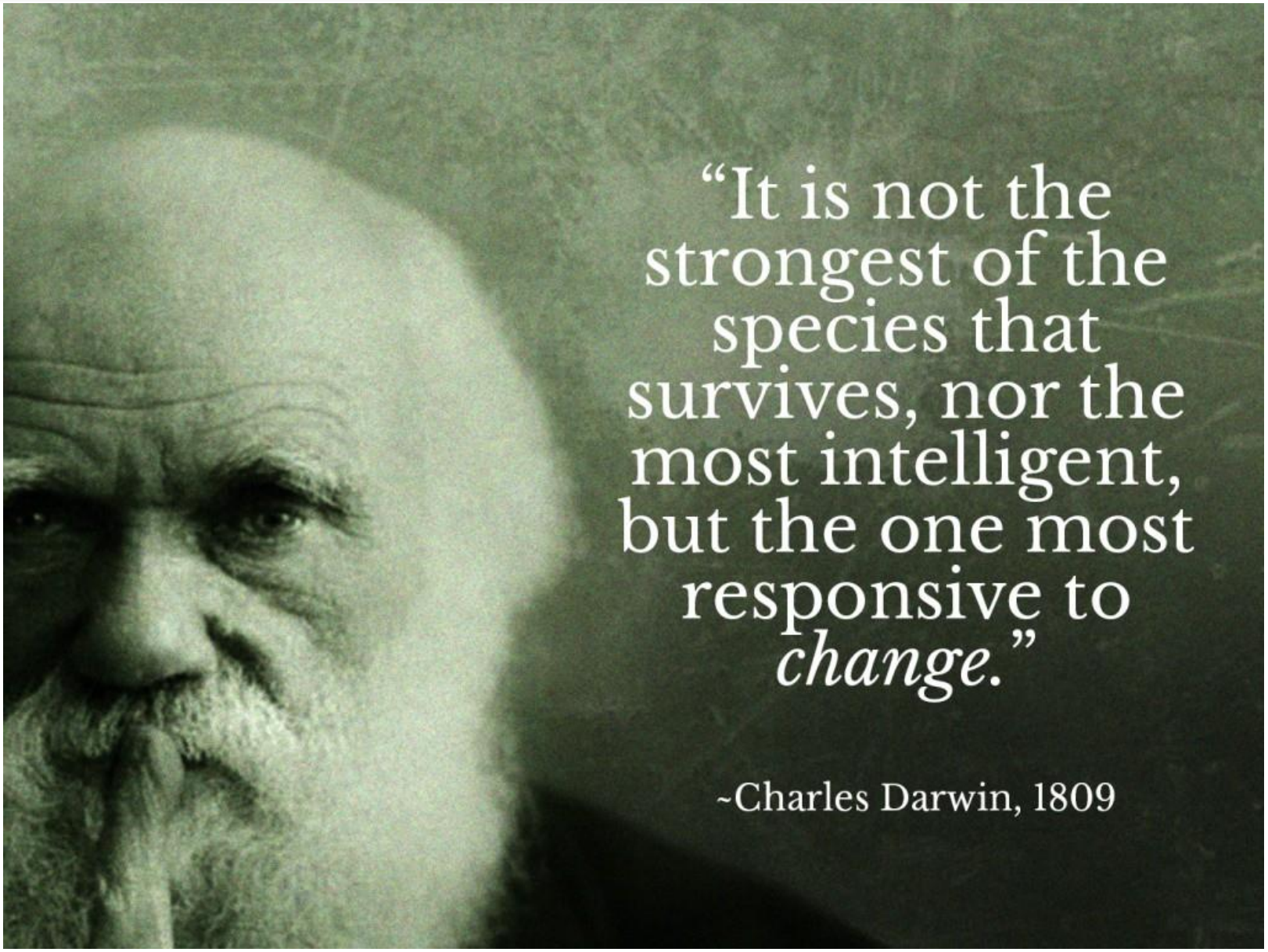
Teoria del Mismatch



Darwin


"It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to *change*."
~Charles Darwin, 1809

Teoria ologenomica

THE OTHER YOU

The microbes living inside us don't just play a vital role in our health – they also shape our evolution, says Carrie Arnold

L'olobionte con il suo ologenoma partecipa come una sola cosa al processo evolutivo

New Scientist, Gennaio 2013

Trasferimeto di "app"

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

Transfer of carbohydrate-active enzymes from marine bacteria to Japanese gut microbiota

Jan-Hendrik Hehemann[1,2]†, Gaëlle Correc[1,2], Tristan Barbeyron[1,2], William Helbert[1,2], Mirjam Czjzek[1,2] & Gurvan Michel[1,2]

Il porfitano è un polisaccaride presente nelle alghe e comunemente digerito dai pesci.

L'uomo manca di tale attività enzimatica, ma i Giapponesi lo hanno in dotazione nel loro microbiota per trasferimento di materiale genetico dal pesce

Come scegliere un probiotico

Come modulare

Milioni anni di evoluzione non si sostituiscono con il "*primo venuto*"

Efficacia provata

(Metanalisi, Cochrane, RCT)

L. Reuteri e disordini funzionali del lattante

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

Childhood Functional Gastrointestinal Disorders: Neonate/Toddler

PAUL E. HYMAN,* PETER J. MILLA,† MARC A. BENNINGA,§ GEOFF P. DAVIDSON,‖ DAVID F. FLEISHER,¶ and JAN TAMINIAU§

*Pediatric Gastroenterology, University of Kansas Medical Center, Kansas City, Kansas; †Paediatric Gastroenterology, Great Ormond Hospital for Children, London, England; §Department of Pediatrics, Emma Kinderziekenhuis ACM, Amsterdam, The Netherlands; ‖Gastroenterology Department, Women's and Children's Hospital, North Adelaide, South Australia, Australia; and ¶Department of Child Health, University of Missouri School of Medicine, Columbia, Missouri

FGD sono quadri clinici (correlati all'età) caratterizzati da sintomi cronici o ricorrenti non associati a patologia organica, biochimica o strutturale.

Table 1. Functional Gastrointestinal Disorders

G. Functional disorders: neonates and toddlers
G1. Infant regurgitation
G2. Infant rumination syndrome
G3. Cyclic vomiting syndrome
G4. Infant colic
G5. Functional diarrhea
G6. Infant dyschezia
G7. Functional constipation

Gastroenterology 2006;130:1377

Disbiosi e probiotici

Lactobacillus reuteri DSM 17938 in Infantile Colic: A Randomized, Double-Blind, Placebo-Controlled Trial

AUTHORS: Francesco Savino, MD, PhD,[a] Lisa Cordisco, PhD,[b] Valentina Tarasco, MD,[a] Elisabetta Palumeri, MD,[a] Roberto Calabrese, BSc,[a] Roberto Oggero, MD,[a] Stefan Roos, PhD,[c] and Diego Matteuzzi, PhD[b]

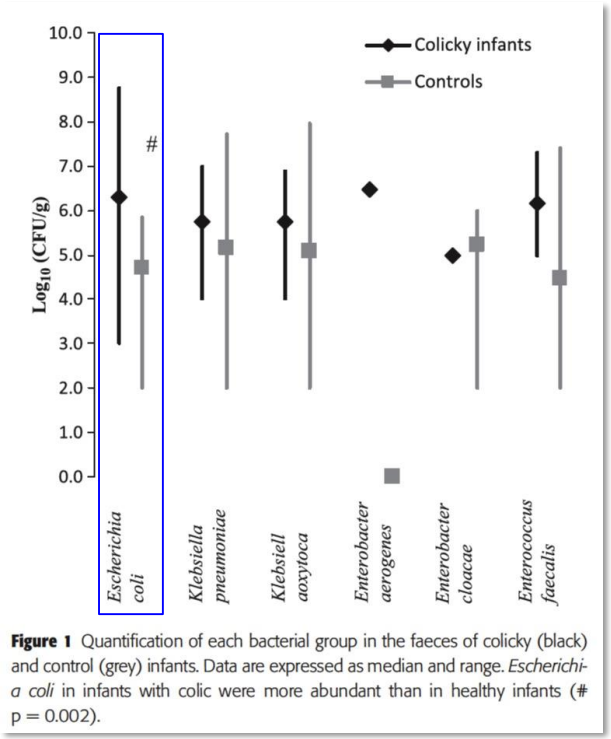


Figure 1 Quantification of each bacterial group in the faeces of colicky (black) and control (grey) infants. Data are expressed as median and range. *Escherichia coli* in infants with colic were more abundant than in healthy infants (# $p = 0.002$).

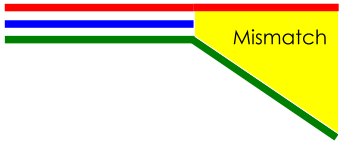


TABLE 4 Bacterial Species per Gram of Feces and Ammonia Concentration Variation From 21 to 0 Day in the Study Groups

	Difference Between Days 21 and Day 0, Median (IQR)		*P*
	Placebo	*L reuteri*	
Bacteria/variable, species per g			
E coli	4.30×10^5 (4.35×10^7)	-6.55×10^7 (4.87×10^8)	.001
C butyricum	-1.00×10^0 (5.91×10^6)	0.00×10^0 (1.52×10^7)	.458
Lactobacillus	0.00×10^0 (3.27×10^4)	4.07×10^5 (4.98×10^6)	.002
Bifidobacteria	0.00×10^0 (3.09×10^9)	2.19×10^8 (2.52×10^9)	.907
Ammonia, mg/L	0.33 (0.81)	−1.10 (1.60)	<.001

Acta Paed. 2009;98:1582
Pediatrics 2010;126;e526

I trial clinici

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

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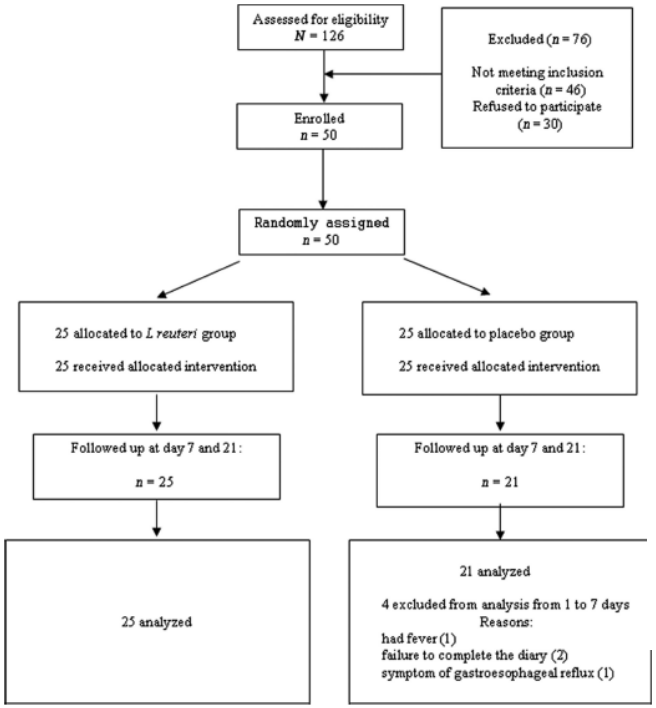
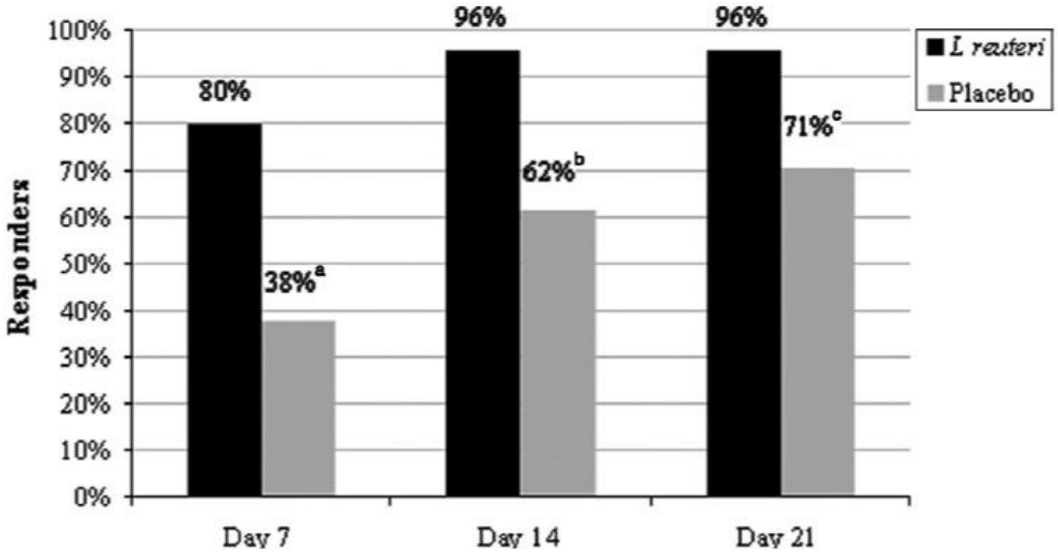


FIGURE 1
Patient enrollment and study progress.

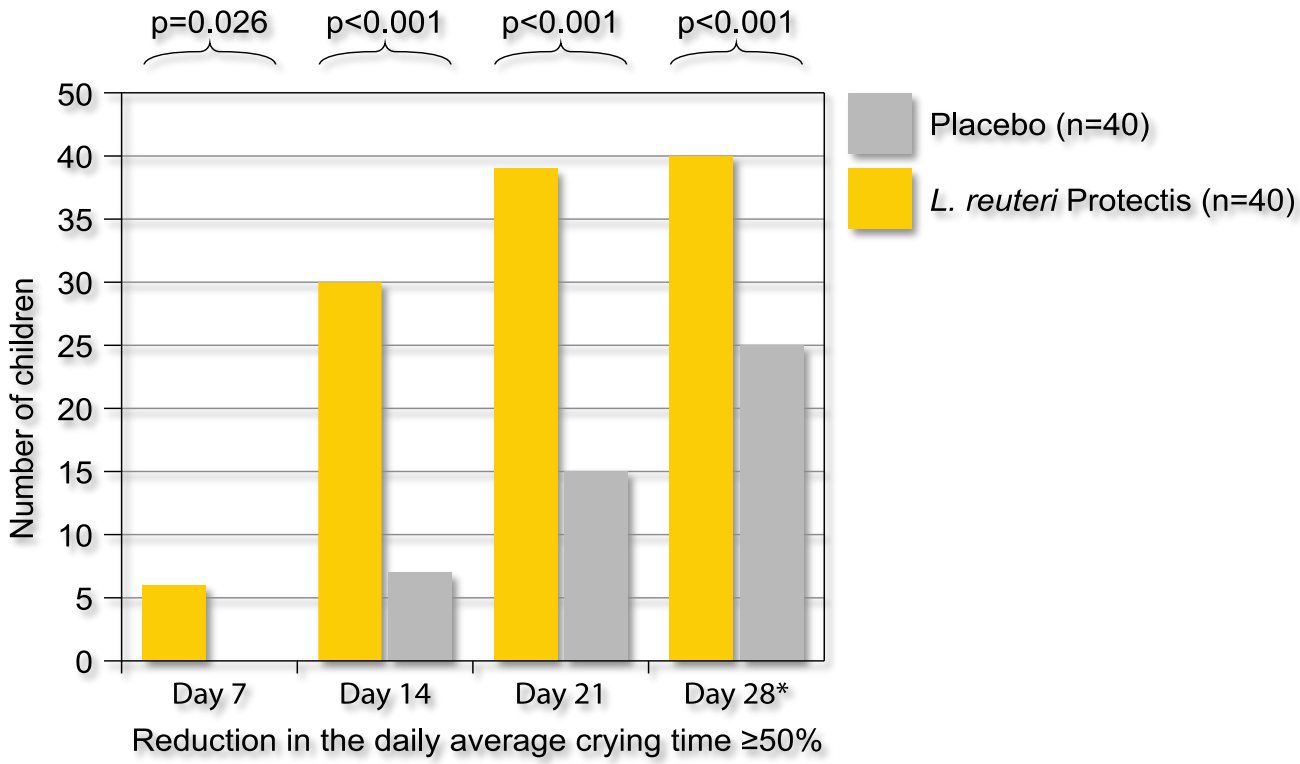


Pediatrics 2010;126;e526

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

Lactobacillus reuteri DSM 17938 for the Management of Infantile Colic in Breastfed Infants: A Randomized, Double-Blind, Placebo-Controlled Trial

Hania Szajewska, MD[1], Ewa Gyrczuk, MD[2], and Andrea Horvath, MD[1]

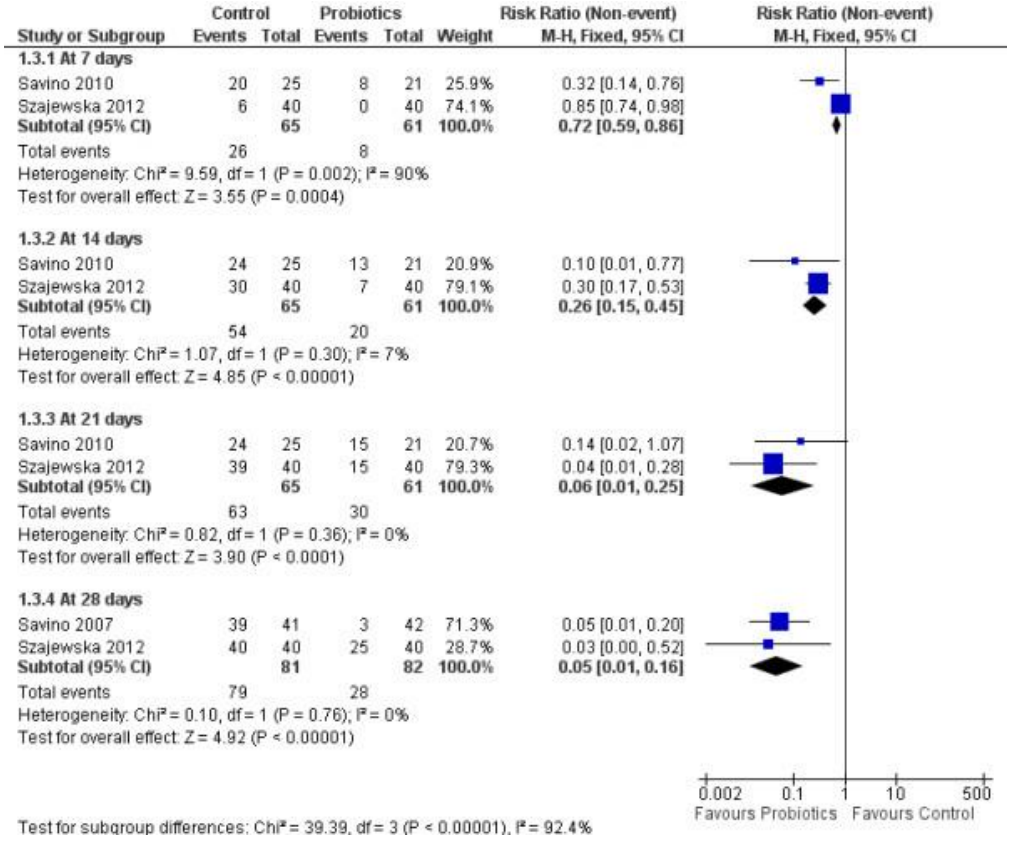


J Pediatr 2013;162:257-62

RESEARCH ARTICLE Open Access

Probiotics for infantile colic: a systematic review

Jasim Anabrees[1*], Flavia Indrio[2], Bosco Paes[3] and Khalid AlFaleh[4]



BMC Pediatrics 2013, 13:186

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

Treating infant colic with the probiotic *Lactobacillus reuteri*: double blind, placebo controlled randomised trial

Valerie Sung *paediatrician*[123], Harriet Hiscock *associate professor*[123], Mimi L K Tang *professor*[123], Fiona K Mensah *statistician*[123], Monica L Nation *honours student*[23], Catherine Satzke *research fellow*[23], Ralf G Heine *paediatric gastroenterologist/allergist*[123], Amanda Stock *paediatrician*[1], Ronald G Barr *professor*[4], Melissa Wake *professor*[123]

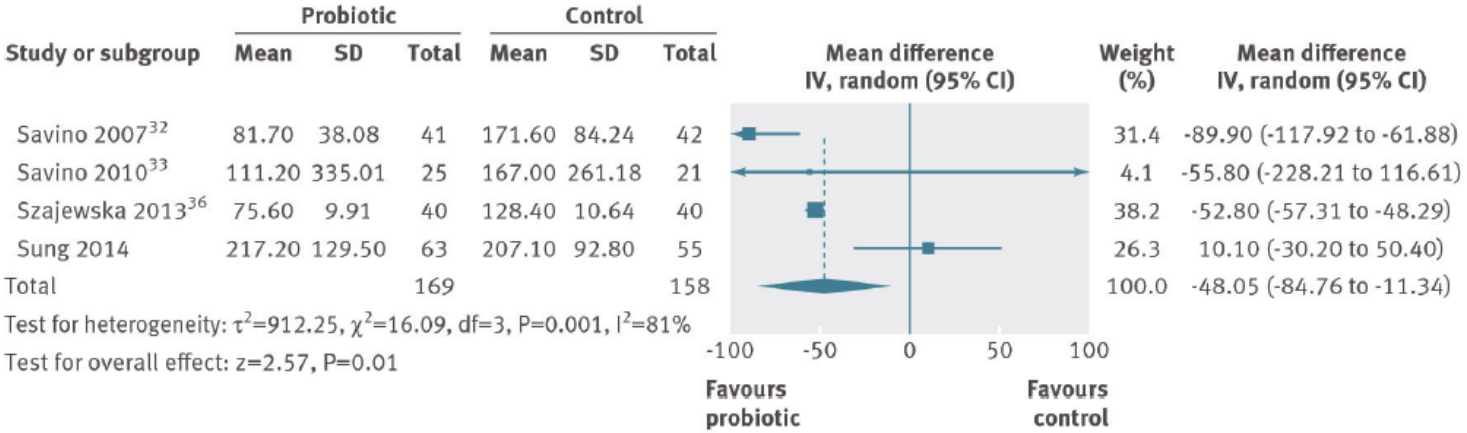


Fig 4 Meta-analysis of previous randomised controlled trials of probiotics for management of infant colic with addition of results from this study

BMJ 2014;348:g210

FGD in pediatria

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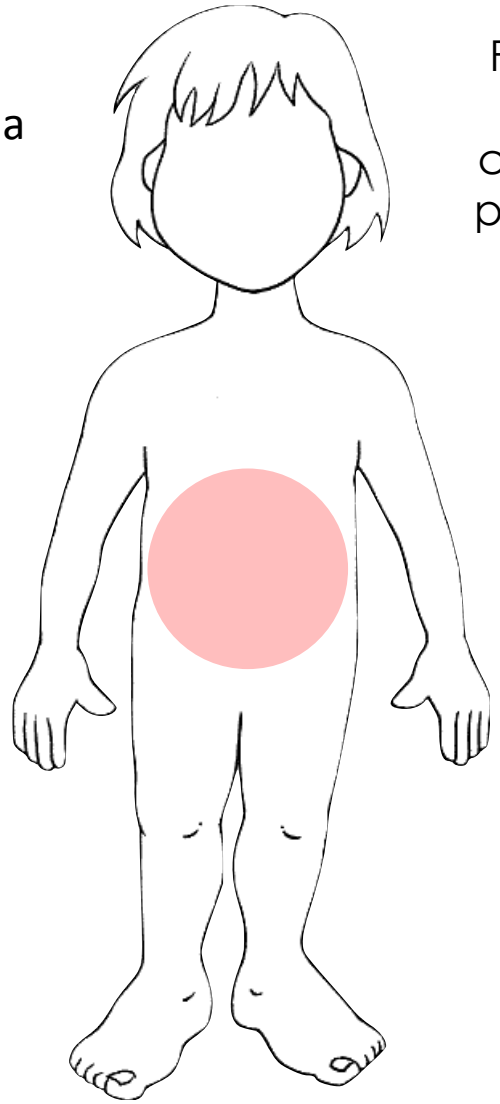

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Table 1. The Functional Gastrointestinal Disorders

- H. Functional disorders: children and adolescents
  - H1. Vomiting and aerophagia
    - H1a. Adolescent rumination syndrome
    - H1b. Cyclic vomiting syndrome
    - H1c. Aerophagia
  - H2. Abdominal pain–related FGIDs
    - H2a. Functional dyspepsia
    - H2b. Irritable bowel syndrome
    - H2c. Abdominal migraine
    - H2d. Childhood functional abdominal pain
      - H2d1. Childhood functional abdominal pain syndrome
  - H3. Constipation and incontinence
    - H3a. Functional constipation
    - H3b. Nonretentive fecal incontinence

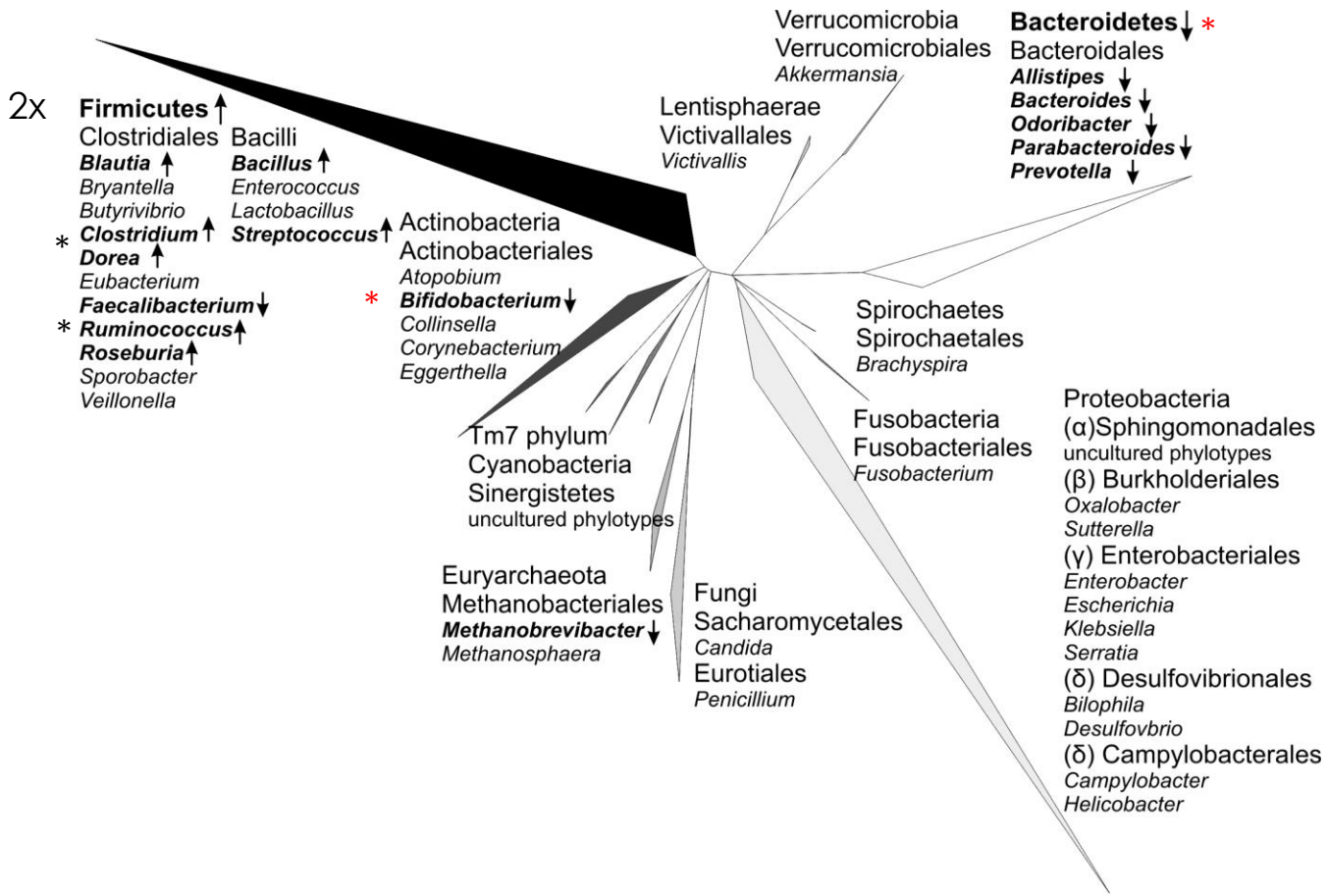
Gastroenterology 2006;130:1377

Microbiota in IBS

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

Global and Deep Molecular Analysis of Microbiota Signatures in Fecal Samples From Patients With Irritable Bowel Syndrome

MIRJANA RAJILIĆ–STOJANOVIĆ,*,‡ ELENA BIAGI,* HANS G.H.J. HEILIG,* KAJSA KAJANDER,§ RIINA A. KEKKONEN,§ SEBASTIAN TIMS,* and WILLEM M. DE VOS*,‖



Gastroenterology. 2011;141:1555

Microbiota in IBS

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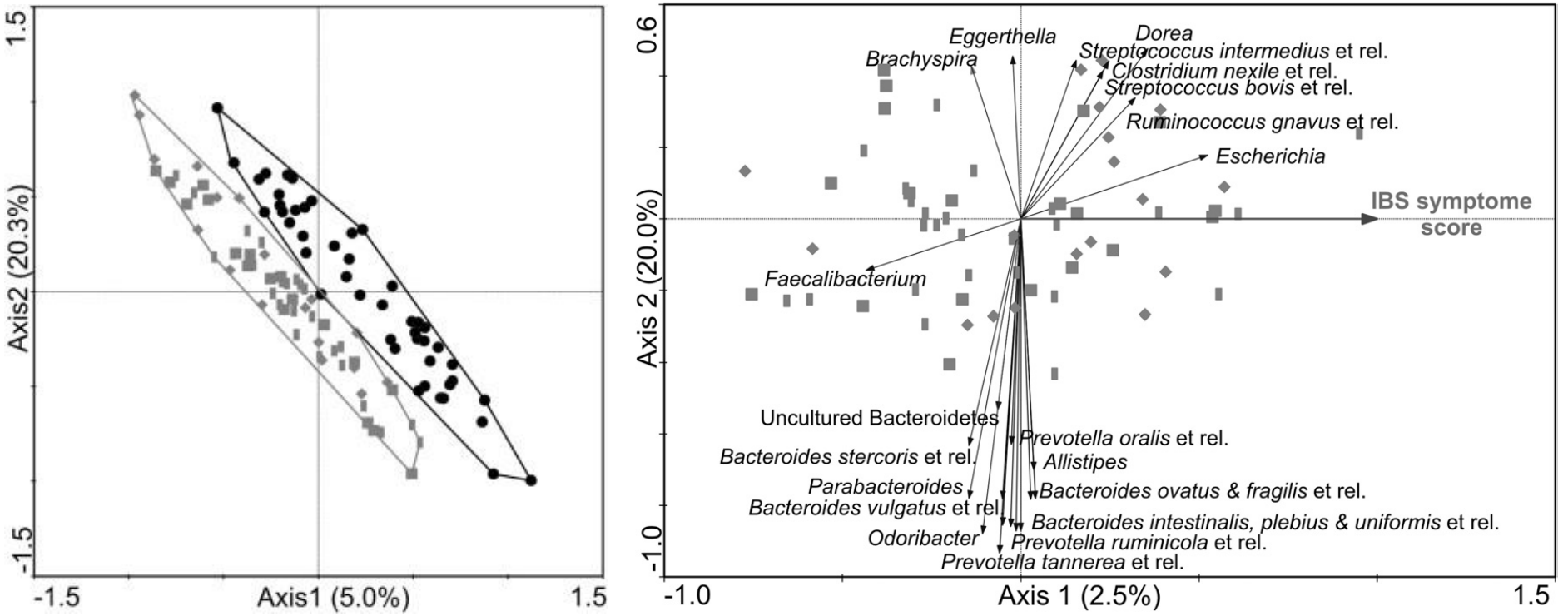


Redundancy analysis plot

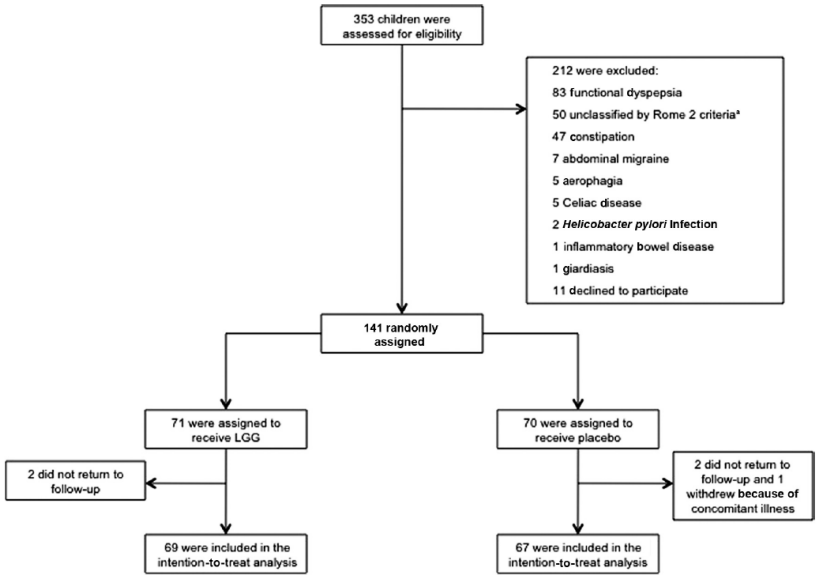
Gastroenterology. 2011;141:1555

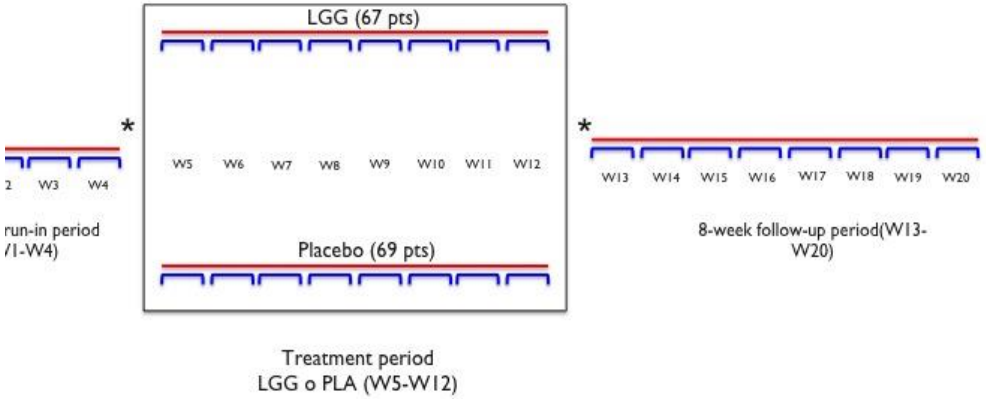
LGG e DAR pediatrico

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

A Randomized Controlled Trial of *Lactobacillus* GG in Children With Functional Abdominal Pain

AUTHORS: Ruggiero Francavilla, MD, PhD,[a] Vito Miniello, MD,[a] Anna Maria Magistà, MD,[a] Angela De Canio, MD,[a] Nunzia Bucci, MD,[a] Francesca Gagliardi, PhD,[a] Elena Lionetti, MD,[b] Stefania Castellaneta, MD,[c] Lorenzo Polimeno, PhD,[d] Lucia Peccarisi, MD,[e] Flavia Indrio, MD,[a] and Luciano Cavallo, MD[a]





Pediatrics 2011; 126:1445

LGG e DAR pediatrico

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

A Randomized Controlled Trial of *Lactobacillus* GG in Children With Functional Abdominal Pain

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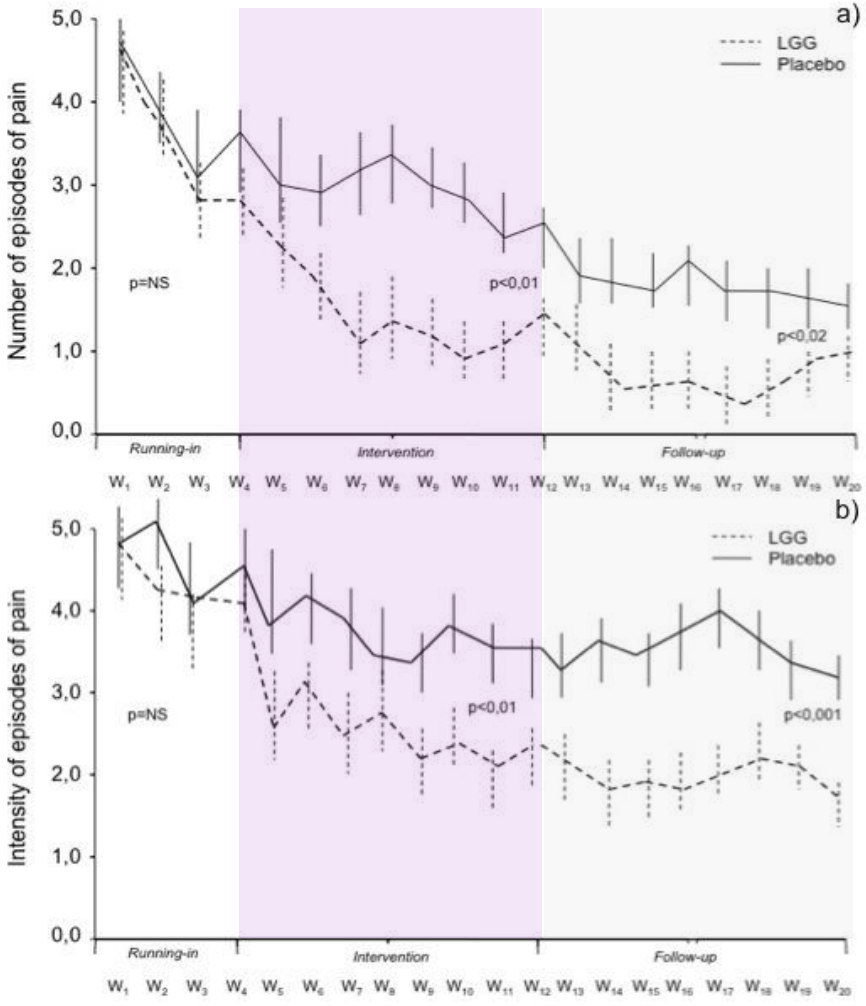


Pediatrics 2011; 126:1445

LGG e dolore addominale ricorrente

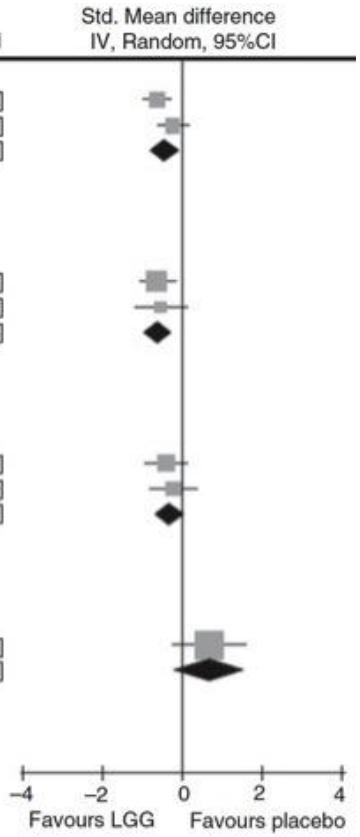
UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

AP&T Alimentary Pharmacology and Therapeutics

Meta-analysis: *Lactobacillus rhamnosus* GG for abdominal pain-related functional gastrointestinal disorders in childhood

A. Horvath, P. Dziechciarz & H. Szajewska

Study or subgroup	LGG Mean	LGG SD	LGG Total	Placebo Mean	Placebo SD	Placebo Total	Weight	Std. Mean difference IV, Random, 95%CI
3.1.1 Overall								
Francavilla 2010	2.3	1.3	67	3.4	2.1	69	52.5%	−0.62 [−0.97, −0.28]
Gawronska 2007	2.5	1.9	52	2.9	1.5	52	47.5%	−0.23 [−0.62, 0.15]
Subtotal (95% CI)			119			121	100.0%	−0.44 [−0.82, −0.05]
Heterogeneity: $\tau^2 = 0.04$; $\chi^2 = 2.21$, df = 1 ($P = 0.14$); $I^2 = 55\%$								
Test for overall effect: $Z = 2.24$ ($P = 0.03$)								
3.1.2 Irritable bowel syndrome								
Francavilla 2010	2.5	1.2	42	3.6	2.2	38	68.1%	−0.62 [−1.07,−0.17]
Gawronska 2007	2.2	2.1	18	3.2	1.5	19	31.9%	−0.54 [−1.20, 0.12]
Subtotal (95% CI)			60			57	100.0%	−0.60 [−0.97, −0.23]
Heterogeneity: $\tau^2 = 0.00$; $\chi^2 = 0.04$, df = 1 ($P = 0.83$); $I^2 = 0\%$								
Test for overall effect: $Z = 3.15$ ($P = 0.002$)								
3.1.3 Functional abdominal pain								
Francavilla 2010	2.5	1.6	25	3.1	1.4	31	53.7%	−0.40 [−0.93, 0.14]
Gawronska 2007	2.6	2	24	3	1.5	23	46.3%	−0.22 [−0.80, 0.35]
Subtotal (95% CI)			49			54	100.0%	−0.32 [−0.71, 0.07]
Heterogeneity: $\tau^2 = 0.00$; $\chi^2 = 0.19$, df = 1 ($P = 0.66$); $I^2 = 0\%$								
Test for overall effect: $Z = 1.59$ ($P = 0.11$)								
3.1.4 Functional dyspepsia								
Gawronska 2007	2.9	1.5	10	1.9	1.3	10	100.0%	0.68 [−0.23, 1.59]
Subtotal (95% CI)			10			10	100.0%	0.68 [−0.23, 1.59]
Heterogeneity: Not applicable								
Test for overall effect: $Z = 1.47$ ($P = 0.14$)								



LGG e dolore addominale ricorrente

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

Nonpharmacologic Treatment of Functional Abdominal Pain Disorders: A Systematic Review

Juliette M.T.M. Rutten, MD[a*], Judith J. Korterink, MD[a*], Leonie M.A.J. Venmans, PhD[b], Marc A. Benninga, MD, PhD[a], Merit M. Tabbers, MD, PhD[a]

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

LGG ha la massima evidenza

Pediatrics 2015;135:522

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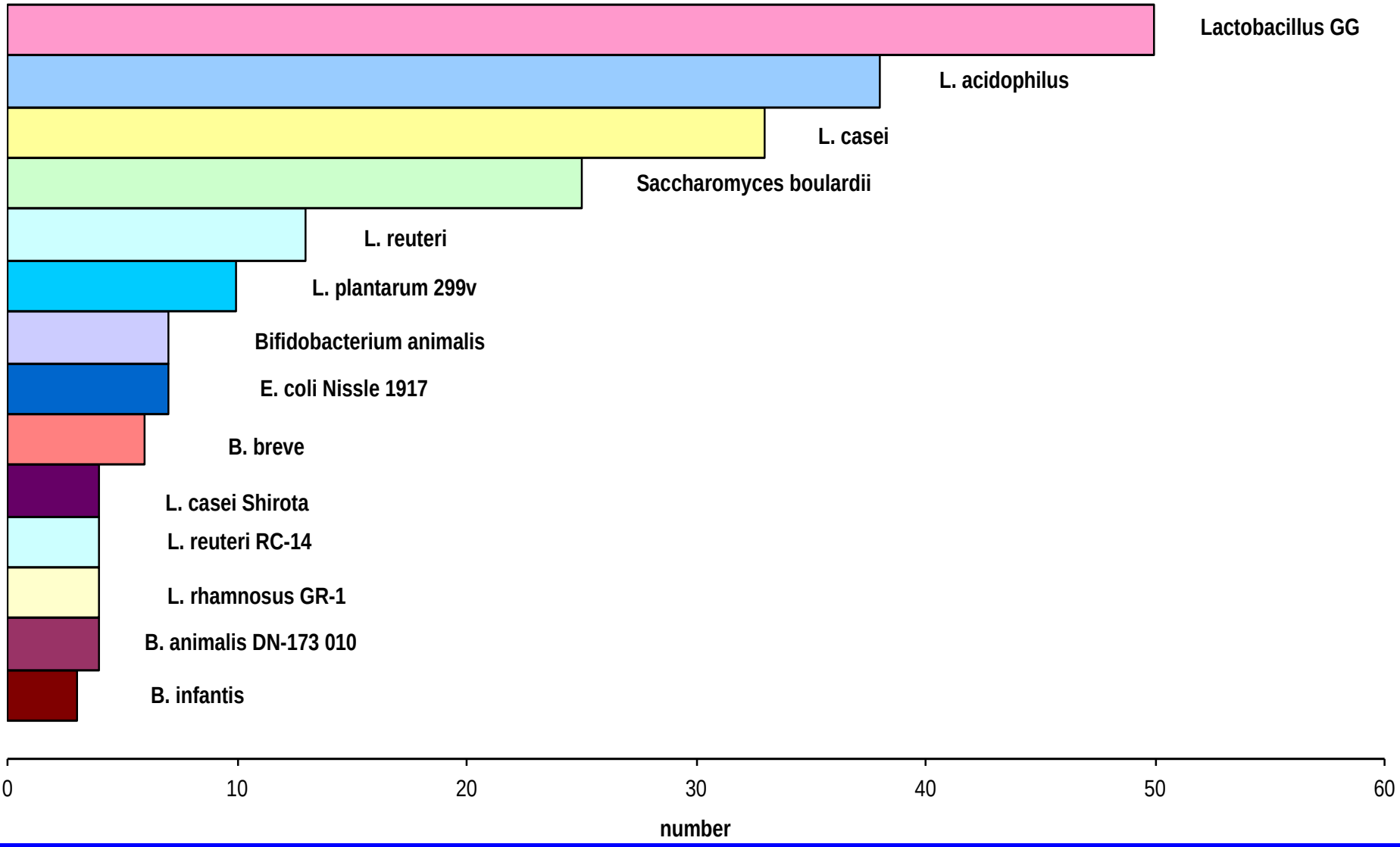
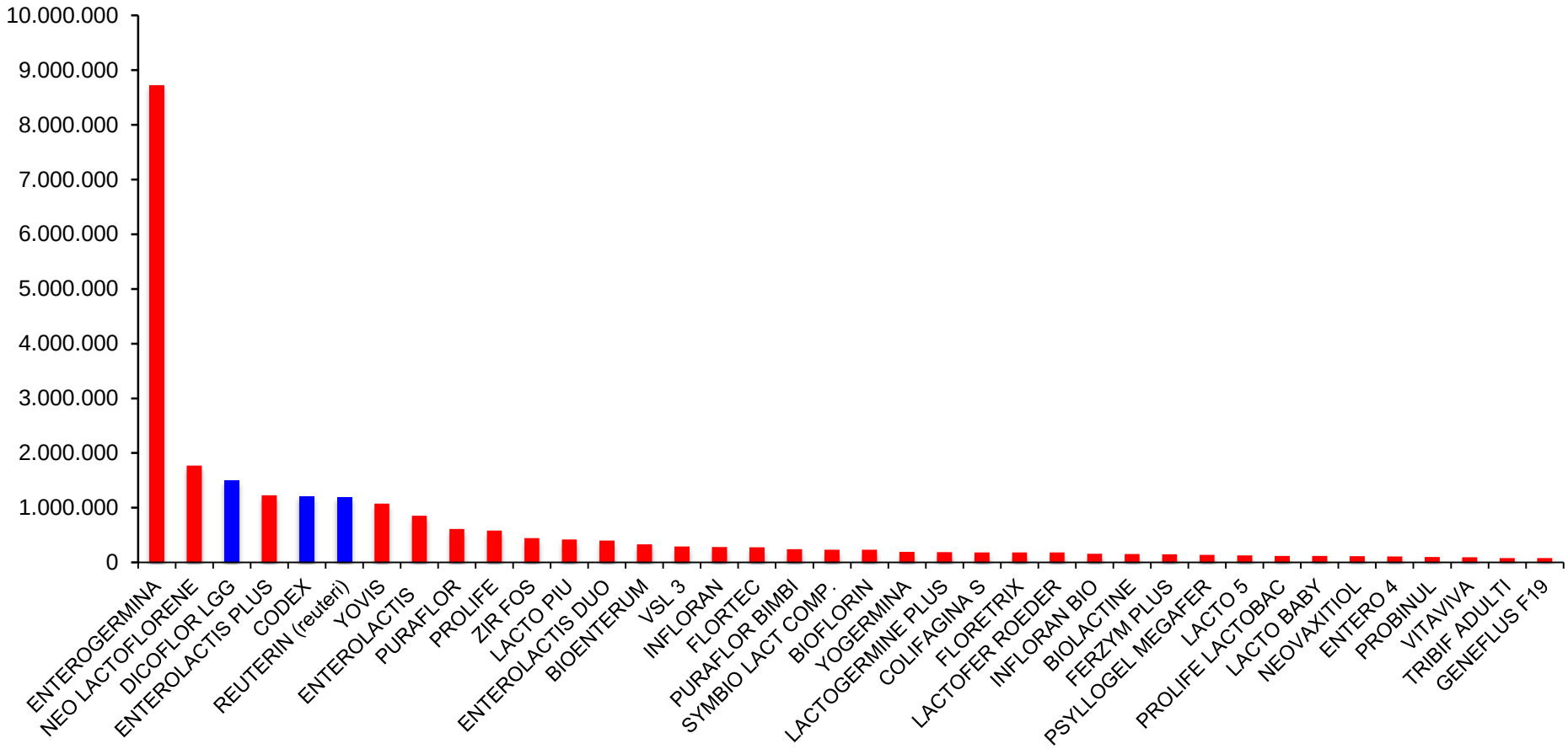
Qualifichiamo le nostre prescrizioni

RCT e probiotici (Pubmed)



Vendite di probiotici (03/2010)



I claim

Miscela di 4 ceppi

I claim


[redacted]
Uomo
Lozione Tonificante Azione
Urto Coadiuvante Cosmetico
Intensivo nel trattamento
CADUTA CAPELLI
Con Fermenti Lattici Probiotici, Fibre Prebiotiche, Serenoa Repens, Acido 18 Beta Glicerretico e Puro Gel di Aloe Vera Biologico.
12 fiale
HOMOCRIN


[redacted]
Donna
Lozione Tonificante Azione
Urto Coadiuvante Cosmetico
intensivo nel trattamento
CADUTA CAPELLI
Con Fermenti Lattici Probiotici, Fibre Prebiotiche, Gingko Biloba, Creatina e Puro Gel di Aloe Vera Biologico.
12 fiale
HOMOCRIN

I claim

Descrizione Prodotto

È un integratore alimentare dalla formulazione esclusiva che contiene una innovativa associazione di fermenti lattici che agiscono sul riequilibrio della flora batterica e vitamina B5 che contribuisce alla riduzione della stanchezza e dell'affaticamento psici-fisico.

Quando può servire

L'abbinamento di due particolari ceppi di fermenti lattici (Lactobacillus helveticus + Bifidobacterium longum) in associazione alla vitamina B5 (conosciuta anche come vitamina antistress) ha mostrato un effetto positivo sull'interazione cervello-intestino, con sensibili benefici agli stati fisici ed emotivi.

Capire la specificità

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http://www.bacterio.cict.fr/

Filia
Firmicutes

Classe
Bacilli

Ordine
Lattobacilli

Famiglia
Lattobacilliace e

Genere
Lattobacillus

Specie
Rhamnosus

Ceppo
GG
ATCC 53103

http://www.straininfo.net/

species	*Lactobacillus rhamnosus*
parent taxon	*Lactobacillus*
type strain	280-16 T, ACM 539 T, ATCC 12116 T, ATCC 7469 T, ATU L-6 T, BCRC 10940 T, BTCC A157 T, BU 227 T, BUCSAV 227 T, CCC B1039 T, CCM 1825 T, CCRC 10940 T, CCTM 3037 T, CCTM La 3037 T, CCUG 21452 T, CDBB 576 T, CECT 278 T, CGMCC 1.0120 T, CGMCC 1.2134 T, CGMCC 1.2466 T, CIP A157 T, CIPA157 T, CNCTC 3 T, CNCTC 6445 T, DSM 20021 T, DSM 20247 T, DSMZ 20021 T, FIRDI 940 T, HAMBI 75 T, Hansen 300 T, IAM 1118 T, IFO (now NBRC) 3425 T, IFO 3425 T, IMET 10691 T, IPF III-L.c./1 T, JCM 1136 T, KCTC 1046 T, KCTC 3237 T, KCTC 3326 T, KCTC 5046 T, LMD 46.33 T, LMG 6400 T, M Rogosa V300 T, M. Rogosa V300 T, M.E. Sharpe H2 T, NBIMCC 1010 T, NBRC 3425 T, NCAIM B.01147 T, NCCB 46033 T, NCDO 243 T, NCFB 243 T, NCIB 6375 T, NCIB 8010 T, NCIM 2125 T, NCIM 2364 T, NCIMB 6375 T, NCIMB 8010 T, NCTC 12953 T, NCTC 6375 T, NRC 488 T, NRCC 488 T, NRIC 1043 T, NRRL B-176 T, NRRL B-442 T, P.A. Hansen 300 T, P.A.Hansen 300 T, PZH 91/50 T, R.P. Tittsler 300 T, R.P.Tittsler 300 T, Rogosa V300 T, RogosaV300 T, Sharpe H2 T, SharpeH2 T, Tittler 300 T, Tittsler 300 T, USCC 1317 T, USCC 2025 T, VKM B-574 T, VTT E-71031 T, VTT E-96031 T, Wis bc-1 T, WSRO 45 T

(BPRCG 2002;16:915)

Nomenclatura

INGREDIENTI: MALTODESTRINE, GELATINA ALIMENTARE, FERMENTI LATTICI VIVI (LACTOBACILLUS GG*), ANTIAGGLOMERANTE: MAGNESIO STEARATO (VEGETALE), COLORANTE: BIOSSIDO DI TITANIO.

*LACTOBACILLUS GG: LACTOBACILLUS CASEI SUBSPECIE RHAMNOSUS (ATCC 53103). CONCESSIONE ESCLUSIVA BREVETTO VALIO LTD (FINLAND). BREVETTO EUROPEO N° 0199535

Nomenclatura

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

301 search results for query 'taxon = 'Lactobacillus rhamnosus' (including subtaxa)'

«previous 1 2 3 ... 31 next»

species names *Bacillus sp.* , ***Lactobacillus rhamnosus***
strain numbers ATCC 31283 , IFO 3831 , KCTC 3011 , NBRC 3831 , T-37

species names *Lactobacillus plantarum* , ***Lactobacillus rhamnosus***
strain number CIP 104456

species names *Lactobacillus casei* subsp. *rhamnosus* , ***Lactobacillus rhamnosus***
type strain of ***Lactobacillus casei* subsp. *rhamnosus*** , ***Lactobacillus rhamnosus***
strain numbers 280-16 T , ACM 539 T , ATCC 12116 T , ATCC 7469 T , ATU L-6 T , BCRC 10940 T , BTCC A157 T , BU 227 T , BUCSAV 227 T , CCC 81039 T , CCM 1825 T , CCRC 10940 T , CCTM 3037 T , CCTM La 3037 T , CCUG 21452 T , CDBB 576 T , CECT 278 T , CGMCC 1.0120 T , CGMCC 1.2134 T , CGMCC 1.2466 T , CIP A157 T , CIPA157 T , CNCTC 3 T , CNCTC 6445 T , DSM 20021 T , DSM 20247 T , DSMZ 20021 T , FIRDI 940 T , HAMBI 75 T , Hansen 300 T , IAM 1118 T , IFO (now NBRC) 3425 T , IFO 3425 T , IMET 10691 T , IPF III-L.c./1 T , JCM 1136 T , KCTC 1046 T , KCTC 3237 T , KCTC 3326 T , KCTC 5046 T , LMD 46.33 T , LMG 6400 T , M Rogosa V300 T , M. Rogosa V300 T , M.E. Sharpe H2 T , NBIMCC 1010 T , NBRC 3425 T , NCAIM B.01147 T , NCCB 46033 T , NCDO 243 T , NCFB 243 T , NCIB 6375 T , NCIB 8010 T , NCIM 2125 T , NCIM 2364 T , NCIMB 6375 T , NCIMB 8010 T , NCTC 12953 T , NCTC 6375 T , NRC 488 T , NRCC 488 T , NRIC 1043 T , NRRL B-176 T , NRRL B-442 T , P.A. Hansen 300 T , P.A.Hansen 300 T , PZH 91/50 T , R.P. Tittsler 300 T , R.P.Tittsler 300 T , Rogosa V300 T , RogosaV300 T , Sharpe H2 T , SharpeH2 T , Tittler 300 T , Tittsler 300 T , USCC 1317 T , USCC 2025 T , VKM B-574 T , VTT E-71031 T , VTT E-96031 T , WDCM 101 T , Wis bc-1 T , WSRO 45 T

species name ***Lactobacillus rhamnosus***
strain numbers 61 , CCUG 17659 , CCUG 17659-61 , CCUG 18011 , LMD 98.73 , LMG 8153 , NCCB 98073 , Reid GR1

species names *Lactobacillus* , ***Lactobacillus rhamnosus***
strain numbers CCUG 23641 , LMG 10769 , PRSF-L 171

species name ***Lactobacillus rhamnosus***
strain numbers CCUG 25594 , LMG 10770 , PRSF-L 172 , PRSF-L 172 QC 1/91 , R-943-1027

species name ***Lactobacillus rhamnosus***
strain numbers CCUG 25738 , LMG 10772

species name ***Lactobacillus rhamnosus***
strain numbers CCUG 25860 , LMG 10773

species name ***Lactobacillus rhamnosus***
strain numbers BO 9007039 , CCUG 27333 , LMG 10775 , PRSF-L 173 , PRSF-L 173 QC 1/91

species name ***Lactobacillus rhamnosus***
strain numbers CCUG 27405 , LMG 10776 , PRSF-L 174 , Skövde 86178

«previous 1 2 3 ... 31 next»

http://www.straininfo.net/

31 pagine

Nomenclatura

Ingredienti: Olio di girasole, Trigliceridi a catena media, *Lactobacillus reuteri* DSM 17938. Antiagglomerante: Biossido di silicio.
Indicazioni: integratore di fermenti lattici vivi (*Lactobacillus reuteri* DSM 17938) utile nel riequilibrio della flora intestinale.
Modo d'uso: assumere 5 gocce (10^8 CFU) al giorno indifferentemente prima o dopo i pasti. Le gocce possono essere miscelate anche in acqua o bevande fredde di qualsiasi tipo. Nel lattante, Reuterin® può essere miscelato al latte alla temperatura di assunzione (max. 37 °C). ***Non miscelare con il latte bollente.***

Da consumarsi preferibilmente entro il: Vedi fondo astuccio.

Brevetto internazionale. N. di Brevetto EP 05747481.9, EP 08164035.1 EP 06733377.3, EP 07748532.4

[redacted]

Lactobacillus reuteri
DSM 17938

5 ml sospensione

Integratore a base di fermenti lattici vivi

NÒOS

Avvertenze: Reuterin®, una volta aperto può essere conservato in luogo fresco (max. 25°C) per 4 settimane. Per lunghi periodi conservare in frigo. **Non congelare.** Non disperdere nell'ambiente. Tenere fuori dalla portata dei bambini di età inferiore ai tre anni. Non superare la dose giornaliera consigliata. Gli integratori non vanno intesi quali sostituti di un sano stile di vita. Per l'uso del prodotto si consiglia di sentire il parere del medico.

5 ml e

Concessionario di vendita:
NÒOS
Via Campello sul Clitunno 34/1
00181 Roma
www.noosit.com
Lactobacillus reuteri DSM 17938 su licenza esclusiva di vendita BioGaia AB (Svezia). **www.biogaia.com**
Prodotto nello stabilimento di*:
Sanico NV, Industriezone 4, Veedijk 59, B-2300 Turnhout, Belgium.
*TwoPac AB, Per Håkanssons väg 36, SE-241 38 Eslöv, Sweden

Associazione Probiotica
dal pretermine, neonato e adulto

Impiego:
- Coliche gassose (gonfiore addominale).
- Eradicazione Helicobacter pylori.
- Dissenteria di qualsiasi natura (antibiotica e non).
- Migliorare lo sviluppo della mucosa gastrointestinale portando a maturazione la flora batterica (intestinale).
- Immunomodulazione tramite stimolazione del sistema linfonodale intestinale.
- Prevenzione della candida e in associazione con farmaci antimicotici.

Nomenclatura

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

55 search results for query 'taxon = 'Lactobacillus reuteri' (including subtaxa)'

«previous 1 2 3 ... 6 next»

species names *Lactobacillus murinus* , ***Lactobacillus reuteri***
strain numbers Astra K10 , CCUG 32271

species name ***Lactobacillus reuteri***
type strain of ***Lactobacillus reuteri***
strain numbers ATCC 23272 T , ATCC 53609 T , BCRC 14625 T , CCRC 14625 T , CCT 3433 T , CCUG 33624 T , CECT 925 T , CIP 101887 T , DSM 20016 T , DSMZ 20016 T , EC-Target Strain 8 T , F275 T , Hansen F275 T , IFO (now NBRC) 15892 T , IFO 15892 T , JCM 1112 T , KCTC 3594 T , LMG 13557 T , LMG 9213 T , NBRC 15892 T , NCDO 2589 T , NCFB 2589 T , NCIB 11951 T , NCIMB 11951 T , NRRL B-14171 T , PRSF-L 166 T , PRSF-L 168 T , PRSF-L 230 T , Reuter F275 T , ReuterF275 T , VTT E-92142 T

species name ***Lactobacillus reuteri***
strain numbers Abo-Elnaga 15/7 , BCRC 16090 , CCRC 16090 , CCUG 42757 B , CIP 109822 , DSM 20015 , KCTC 3677 , LMG 13045

species name ***Lactobacillus reuteri***
strain numbers BCRC 16091 , CCRC 16091 , CIP 109824 , DSM 20053 , KCTC 3678 , LMG 13046 , PRSF-L 167 , Raibaud F70

species name ***Lactobacillus reuteri***
strain numbers CCUG 42758 , KCTC 3682 , L94 , LMG 13088 , NCFB 1089 , strain L94

species name ***Lactobacillus reuteri***
strain numbers KCTC 3683 , LMG 13089 , NCFB 1359 , Sharpe Pf 3

species name ***Lactobacillus reuteri***
strain numbers CCUG 42759 , KCTC 3679 , LMG 13090 , NCFB 2656 , PRSF-L 164 , strain A1

species name ***Lactobacillus reuteri***
strain numbers KCTC 3680 , LMG 13091 , NCFB 2655 , PRSF-L 165 , strain E6

species name ***Lactobacillus reuteri***
strain numbers 11284 , ATCC 55148 , Bio Gaia AB 11284 , BioGaia AB 11284 , LMG 18238

species name ***Lactobacillus reuteri***
strain numbers LMG 18391 , TNO strain K-24

«previous 1 2 3 ... 6 next»

http://www.straininfo.net/

9

pagine

Nomenclatura

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EFFICACIA CLINICA

INFORMAZIONI NUTRIZIONALI

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Nomenclatura

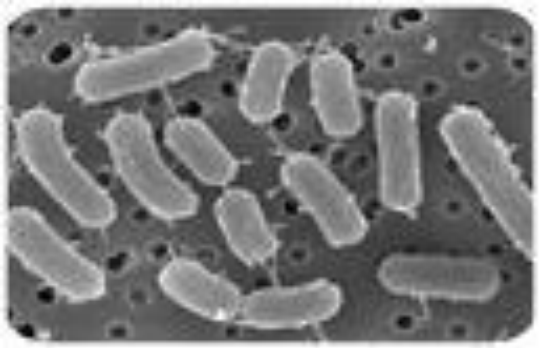
INFORMAZIONI NUTRIZIONALI					
COMPONENTI		**Q.tà / bst**	**UFC/bustina**	**Per 100 g**	**CEPPO**
Inulina		2000 mg		66.7 g	
Lattoferrina		100 mg		3.33 g	
Bifidobacterium infantis	50 Mld	40 mg	2 Mld	1.33 g	simile ATCC 15697
Lb rhamnosus	150 Mld	35 mg	5 Mld	1.17 g	simile ATCC 53103
Lb acidophilus	150 Mld	35 mg	5 Mld	1.17 g	simile ATCC 4356
Saccharomyces Boulardii	50 Mld	25 mg	1 Mld	0.83 g	simile ATCC MYA 796

Contiene 13 Mld di fermenti lattici per bustina

LGG e L. rhamnosus

98%

(identicità genomica)



LGG

L. Rhamnosus

(Nat Rev Microb 2009;7:843)

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LGG e L. rhamnosus

NEWS & ANALYSIS

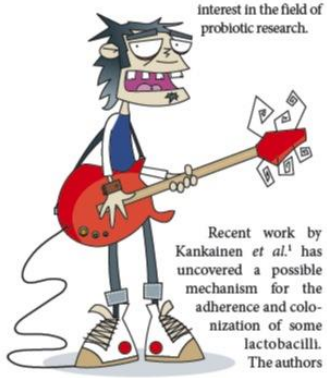
GENOME WATCH

Probiotics stick it to the man

Alan Walker

This month's Genome Watch highlights the part that genomics can play in generating new insights into the interactions of probiotic *Lactobacillus* strains with the human gut.

Lactobacilli are Gram-positive, facultatively anaerobic or microaerophilic bacteria that inhabit a range of ecological niches. They are common inhabitants of the gastrointestinal and vaginal tracts and are also important for the production and preservation of a range of fermented food products. However, they are perhaps most widely known as probiotic organisms, which are consumed as live dietary supplements and have been postulated to have a number of health-promoting benefits. It seems that long-term colonization of the gut does not occur, however, and after the consumption of supplements has ceased the probiotic strains gradually disappear from the colon. Therefore, strains that can adhere to intestinal tissue or mucus are likely to have an extended interaction with the host and are of noteworthy interest in the field of probiotic research.



Recent work by Kankainen *et al.*[1] has uncovered a possible mechanism for the adherence and colonization of some lactobacilli. The authors sequenced and compared the genomes of *Lactobacillus rhamnosus* GG, a commonly used probiotic bacterium, and *L. rhamnosus* Lc 705, an industrial strain that is used as an adjunct starter culture in dairy products. At around 3 Mb in size, the genomes of both strains are larger than those of most other lactobacilli sequenced to date. There is a high degree of synteny between the two genomes, and most predicted proteins have greater than 98% average amino acid identity. However, each genome is marked by the presence of distinct genomic islands, which the authors speculate are likely to have been acquired by horizontal gene transfer. Of note, one of the islands that was detected only in *L. rhamnosus* GG seems to contain a set of genes (*spaCBA*) encoding three pilin proteins and another gene encoding a pilin-dedicated sortase that is required for the assembly of pilus structures. Pili are protrusions of the cell surface and have previously been shown to be important for colonization and host interaction in other Gram-positive bacteria. *L. rhamnosus* GG has previously been shown to adhere to mucus and epithelial cell lines around 10 times as efficiently as *L. rhamnosus* Lc 705, and human intervention trials showed that *L. rhamnosus* GG persists in the intestinal tracts of healthy volunteers for 7 days longer than *L. rhamnosus* Lc 705. This led the authors to investigate whether the presence of the SpaCBA pili is crucial to the enhanced colonization ability of *L. rhamnosus* GG.

Firstly, they demonstrated that SpaC pilin is expressed in *L. rhamnosus* GG (but not in *L. rhamnosus* Lc 705) cell wall protein extracts using immunoblotting with SpaC-specific antibodies. Next, they verified the presence of SpaCBA pili on the surface of *L. rhamnosus* GG cells by immunogold electron microscopy. The crucial role of SpaC in enhancing *L. rhamnosus* GG colonization was then convincingly shown by the finding that both wild-type *L. rhamnosus* GG treated with SpaC antiserum and *spaC*-inactivated mutants exhibited attenuated adherence to human intestinal mucus. The authors therefore concluded that the greater persistence in the human gut of *L. rhamnosus* GG compared to *L. rhamnosus* Lc 705 is probably due to the mucus-binding capacity of the SpaCBA pili. This is the first reported observation of mucus-binding pili in probiotic lactic-acid bacteria and gives the first indication that pili are crucial to the colonization capabilities of the probiotic *L. rhamnosus* GG.

Coincidentally, Morita *et al.*[2] recently completed the genome sequencing of *L. rhamnosus* ATCC 53103, which is another probiotic strain and is derived from *L. rhamnosus* GG. Genomic analysis of this strain revealed a very high degree of global synteny with the genome of *L. rhamnosus* GG, except for the fact that the genome of *L. rhamnosus* ATCC 53103 is around 5 kb shorter and contains an 8.9 kb inverted region. Further work to determine whether the *L. rhamnosus* ATCC 53103 genome encodes functional SpaCBA pili will shed more light on the importance of adhesion to mucus during colonization of the human gut by these probiotic *Lactobacillus* strains.

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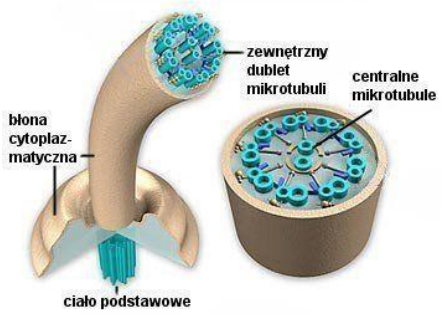
1. Kankainen, M. *et al.* Comparative genomic analysis of *Lactobacillus rhamnosus* GG reveals pili containing a human-mucus binding protein. *Proc. Natl Acad. Sci. USA* 106, 17193–17198 (2009).
2. Morita, H. *et al.* Complete genome sequence of probiotic *Lactobacillus rhamnosus* ATCC 53103. *J. Bacteriol.* 9 Oct 2009 (doi:10.1128/JB.01287–09).

DATABASES

Entrez Genome project: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=genomeprj
Lactobacillus rhamnosus GG | L. rhamnosus GG str. ATCC 53103 | L. rhamnosus Lc 705

ALL LINKS ARE ACTIVE IN THE ONLINE PDF

LGG vs. altri L. Rhamnosus ha una capacità di aderire al muco 10 volte maggiore e persiste nell'intestino 7 giorni più a lungo



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grazie