


 Agenzia nazionale per le nuove tecnologie,
 l'energia e lo sviluppo economico sostenibile

GIORNATA DELL'IMMUNOLOGIA
 Roma, 15 maggio 2019

ENEA – Lungotevere Thaon di Revel n. 76

con il patrocinio di

 Società Italiana di Immunologia

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Sistema immunitario e microbiota


Rita De Santis
 Rome, May 15 2019

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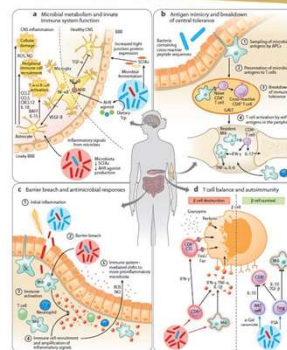
Microbiota: central role in health!

Bacteria outnumber our cells
Poop is a good source of therapeutics!!!



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The intestinal microbiota plays a crucial role in influencing the development of host immunity, and in turn the immune system also acts to regulate the microbiota through intestinal barrier maintenance and immune exclusion.

Normally, these interactions are homeostatic, tightly controlled, and organized by both innate and adaptive immune responses.

However, a combination of environmental exposures and genetic defects can result in a break in tolerance and intestinal homeostasis.


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From: Brown EM et al Annual Review of Immunology 2019

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MB-based therapeutics: leading concepts

1. Reduced number of MB cells
2. Reduced diversity
3. Specific strain extinctions
4. Wrong messages to the immune system


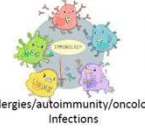
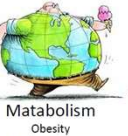



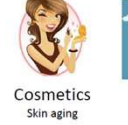

 Poop-based interventions

Integration
 Modification
 Replacement

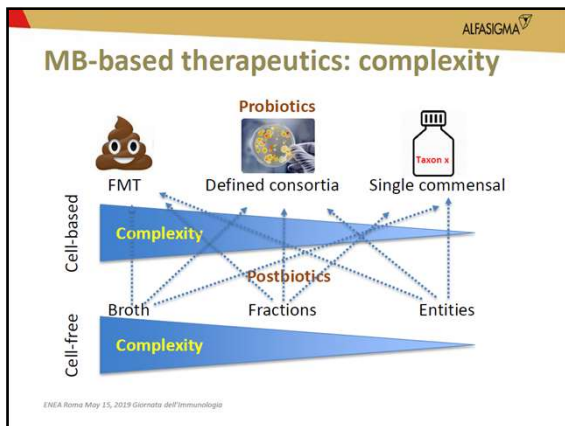
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MB-based therapeutics for...

 GI IBD	 Allergies/autoimmunity/oncology Infections	 Metabolism Obesity Food intolerance	 Dermatology Acne
 Neurology Autism, depression	 Cardiovascular	 Cosmetics Skin aging	 Longevity

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MB therapeutics: Players and trends

Housewives

<http://thepowerofpoop.com/patients/fecal-transplant-instructions/>

DIY
Ecommerce

Spin-off start-ups

"We're a startup. Once we start making money, THEY will get in office, desks, computers, etc..."

All kinds of business models

Big Pharma

Watchful waiting
Investing in basic science and SO/SU
Exploiting existing segments

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MB-based therapeutics: urgent call for serious and integrated science!

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