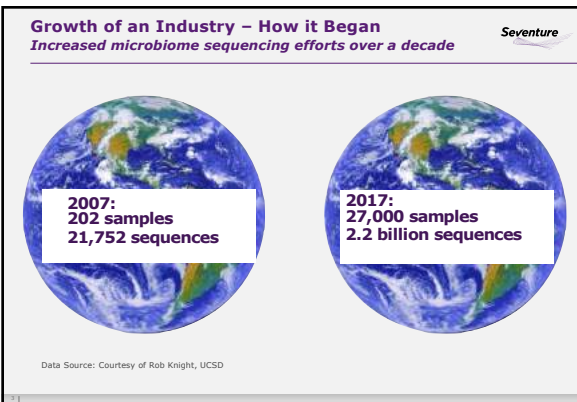




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3

Microbiomes – all body sites
Living in us, on us and around us Seventure

Gut, Skin, Lung, Urogenital/Vaginal, Tumor Microbiomes
 Gut/Brain; Gut/Lung; Gut/Liver; Gut/Skin Axis


20,000 Human Genes **nature** 2 - 20 million Microbial Genes



1% Human and 99% Microbial


4

From Microbiome Samples to Robust Analytics:
Standardization, Confounders, Scale, Precision Seventure



5

Growth of Public and Private Microbiome-Focused Initiatives Seventure



6

Microbiome Ecology shifts throughout Life Stages *Seventure*
 Major individual differences and impact on human health

Birth mode, Breast feeding, Nutrition & Diet, Drugs, Urban versus Rural Life-style

Antibiotics & Sanitation (The Germophobic Years)

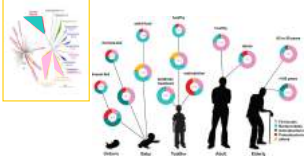


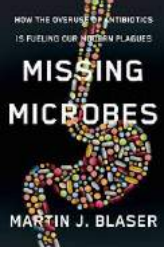
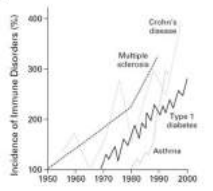




Image reproduced from: Science 2005; 308: 5728 & Front Cell Infect Microbiol. 2012; 2: 104

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Microbial Diversity in Health and Disease *Seventure*
 Impact of western lifestyle – chronic diseases
 Growing body of preclinical and clinical evidence

Altered Microbiomes Increased Immune mediated diseases

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Microbial Diversity/Composition in IBD *Seventure*
 Healthy Donor FMT and Ulcerative Colitis

JAMA
 Original Article

2020, 323(17):1573-1581 | DOI:10.1001/jama.2020.10045

Effect of Fecal Microbiota Transplantation on 8-Week Remission in Patients With Ulcerative Colitis: A Randomized Clinical Trial

Journal of Clinical Medicine

The Role of Fecal Microbiota Transplantation in the Treatment of Inflammatory Bowel Disease

Daily, oral FMT for long-term maintenance therapy in ulcerative colitis: results of a single-center, prospective, randomized pilot study

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Translating Microbiome Science –
Human Health & Wellness and Therapeutic Opportunities Seventure

**TINY ORGANISMS
BIG IMPACT**

13

NUMEROUS ONGOING CLINICAL TRIALS EVALUATING MICROBIOME PRODUCTS Seventure
FROM BUGS TO DRUGS TO FOODS

First microbiome-based drug clears phase III, technical milestone
 First microbiome-based drug, **OS-9100**, has completed phase III clinical trial, demonstrating safety and efficacy in patients with Crohn's disease.

Fasting and Probiotic Prevent Lactin⁺ Phase 2 Data Demonstrating Superior Efficacy of Investigational PROBIOM[®] Probiotic to Reduce Recurrence of C. difficile Infection

Probiotic for blood glucose levels receives clinical backing
OS-9100 is a first-in-class, next-generation probiotic that has been shown to improve blood glucose levels in patients with type 2 diabetes.

Probiotic for blood glucose levels receives clinical backing
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Clinical trials.gov
 Microbiome Title =2572 Registered Clinical Trials

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Human Microbiome Market, 2022 Seventure
 Probiotics, Prebiotics, Foods, Medical Foods and Microbiome Drugs

Category	Market Share (%)
Probiotics	43.0%
Foods	36.7%
Prebiotics	11.2%
Medical Foods	6.9%
Diagnostic Tests	1.8%
Drugs	0.3%

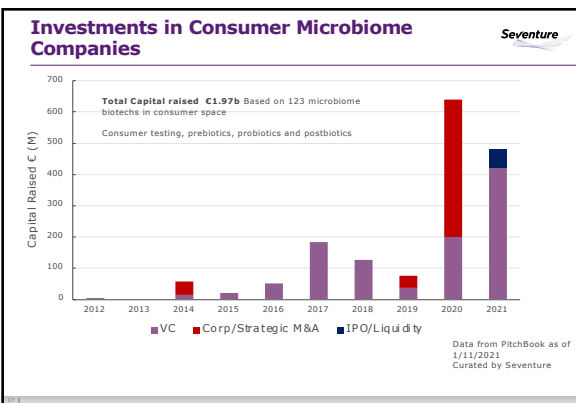
Currently probiotics dominate although significant emerging interest in prebiotics and postbiotics

Data Source: Human Microbiome Market, Global Forecast: Markets & Markets

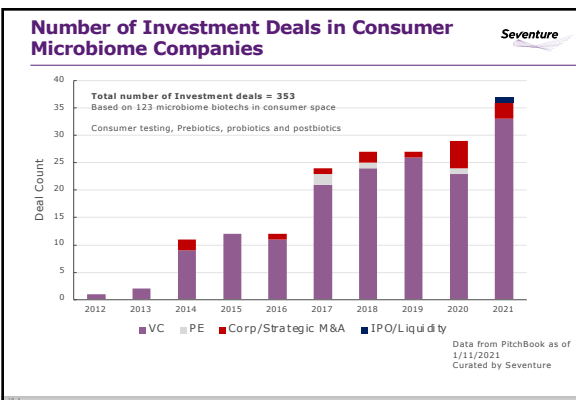
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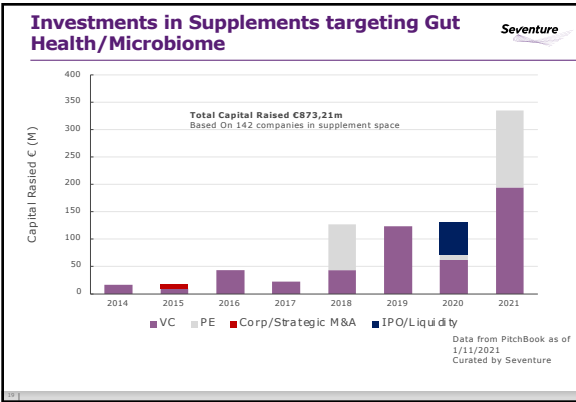
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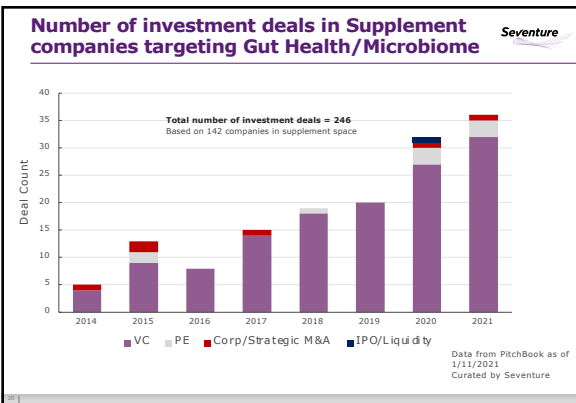
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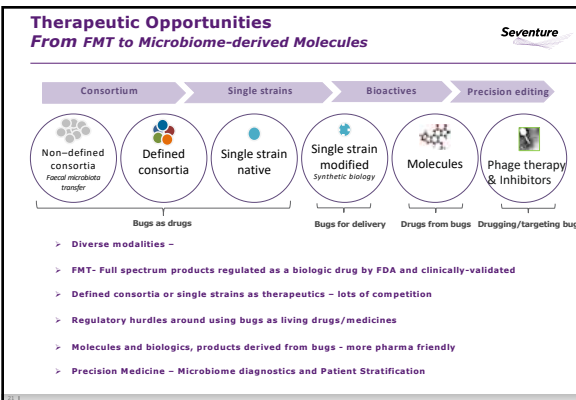
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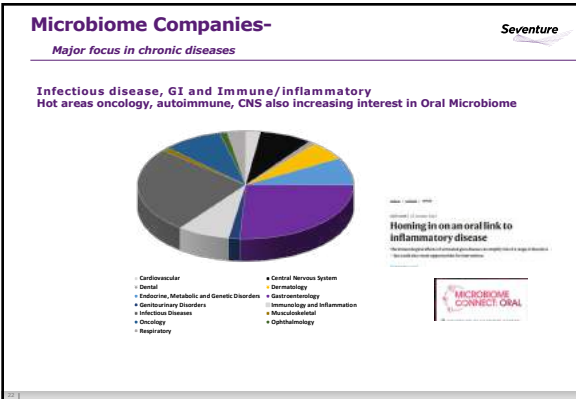
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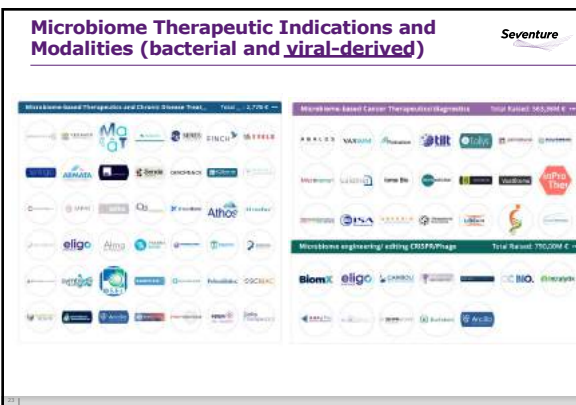
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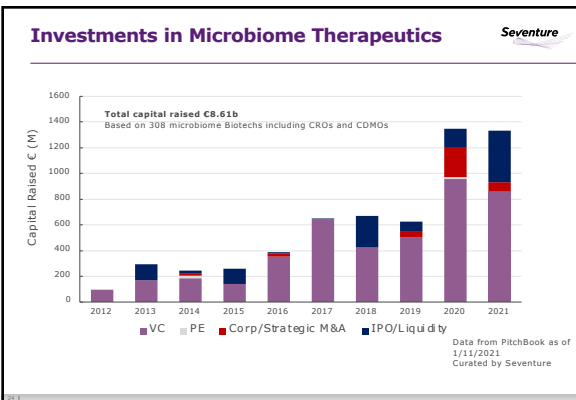
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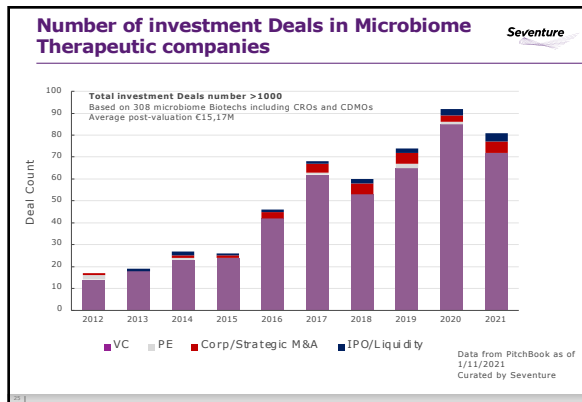
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- ### Microbiome Industry- Dynamic and Growing
- Pharma & Nutritional Partnerships/Acquisitions, Successful Fund Raises & IPOs during COVID
- December 2021 Kaleido expand partnership with Janssens in early life
 - December 2021 Sanofi Acquire Origimm -skin microbiome disorders
 - November 2021 Bectera and Seres Therapeutics Collaborate for commercial manufacturing of SER-109
 - November 2021 Viome raises \$54m for microbiome platform
 - November 2021 ADM acquires Deerland Probiotics
 - November 2021 Mast Pharm launches successful IPO EuroNext
 - August 2021 Day Two raise \$37m expansion of chronic disease solutions
 - August 2021 Successful execution of Second Genome Bayer collaboration
 - August 2021 Amenda received gravel food designation from FDA
 - July 2021 Seres (Ser 207) did not meet primary endpoint in UC clinical study
 - July 2021 Vedanta Biosciences completes s08M Series D funding
 - July 2021 Garuda Biosciences receives \$100M Series D
 - March 2021 4D Pharma plc becomes dual listed after merger with Longevity
 - March 2021 Finch Therapeutics lists on Nasdaq
 - March 2021 Thorne Mergers with Onegeivity
 - March 2021 BioGis forms investment arm with skin and gut microbiome focus
 - February 2021 Ferring, Rebiotix and Hybiodis enter research collaboration in Women's Health
 - January 2021 Vedanta announces deal with Pfizer
 - January 2021 Eligo Bioscience links deal with GSK worth approx. \$224million

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Emerging Legal Challenges

Finch Sued by Ferring Over Patents on Fecal-Transplant Therapy

Nov 1, 2021, 7:16 PM

Ferring and its Network have asked a Federal court in Delaware to bar BIOGIGA, Finch's proposed first-in-class probiotic, of any future US patents covering patents held by Finch Therapeutics related to fecal microbiome transplant, or FMT, therapy.

- Ferring's leading court's decision that patents should be invalidated, written, enforced and used against, according to complaint filed Wednesday in Delaware court in Wilmington, Delaware.
- Biological sciences professor and managing director of a diverse consortium of fecal microbiome transplant.

Eligo Bioscience Announces Successful Outcome in US Patent Interference against SNIPR Biome

© November 8, 2021 | Microbiome Times | 10 Editors: Olivia, Thomas, Patrick & Roger Smith

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Securing Microbiome Investment in a Rapidly Progressing field
Demonstrating Differentiation

Biology

- > Cutting Edge and Validated (providing reason to believe) - high bar

Both Top-down and Bottom-up Approaches

- > Proprietary Platforms – Standardization, Robustness and Superiority
- > Innovative screening/testing approaches
- > Consumer - Personalized Healthcare/Nutrition
- > Patients- Therapeutics- Stratification/Biomarkers/Diagnostics

Lead Identification and pipeline

- > Strength of Product
- > Strain/product Identity, Characterization and Provenance
- > Preclinical Proof of Concept - cells, organoids, humanized mice
- > Mode of Action – Novel targets/pathways

Route to Clinic/Market



- > CMC, Regulatory Path
- > Clinical path FIM, Biomarkers and Endpoints

IP strategy

- > FTO and patentability

Consumer /Pharma Interest

- > Commercial potential/Market opportunity
- > Competition
- > Exit Route - Potential Acquirers/IPO

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*Microbiome – Disruptive Innovation
 Changing Healthcare*

Seventure

Thanking you for your attention

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