

**AIDP**  
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Translating Prebiotic Science to Meet Consumer Needs

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**Anagenix**

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The Role of Microbiome Diversity in Healthy Gut Barrier Function

- ✓ Diverse microbiome
- ✓ Strong mucosal barrier + well-formed tight junctions within intestinal lining
- ✓ Short chain fatty acid production
- ✓ Passage of beneficial substances + elimination of harmful pathogens or toxins

- ✗ Imbalanced microbiome
- ✗ Compromised intestinal barrier
- ✗ Hyperpermeability – increased antigen and toxin absorption into bloodstream
- ✗ Inflammatory response

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Gut Dysbiosis

Dybiosis → Low Short Chain Fatty Acids → Leaky Gut → Chronic Low-Grade Inflammation → Intolerance of Environmental & Emotional Stressors → Health Conditions On Gut Axis

**GI Issues – Diarrhea; Constipation**

**Impaired Immunity**

**Skin Issues**

**Fatigue; Brain Fog**

**Bloating; Discomfort**

**Widespread Inflammation**

**Impaired Nutrient Absorption**

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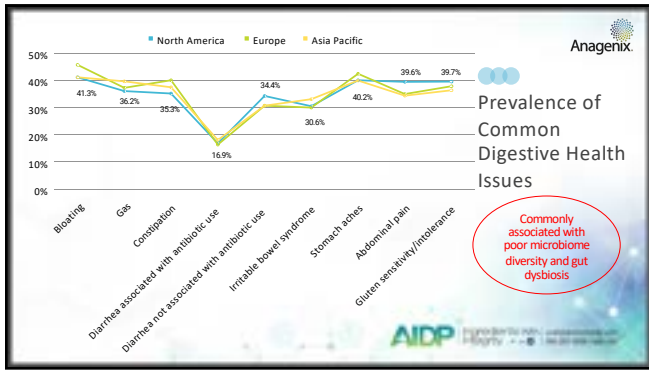
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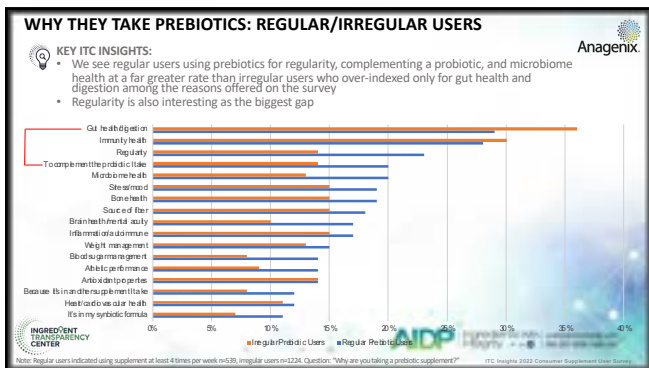
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### PREBIOTICS CHARACTERISTICS

**KEY ITC INSIGHT:**

- When looking at all prebiotic users, simply looking for the term prebiotic appears as the top characteristic, closely followed by a prebiotic/probiotic combination with this closely followed by specific activity on the gut microbiota. Fiber in this total population is 5th.
- It should be noted that looking for a synbiotic also appears as a selection.
- It is clear that consumers are looking for a broad set of characteristics – the challenge is meeting this in easy to communicate ways.

**Takeaway: keep it simple**

Characteristic	Percentage
Look the label as a prebiotic	~28%
Look for a prebiotic/probiotic combination	~25%
Look for specific activity on the gut microbiota (e.g. organic acids, etc.)	~22%
Look for fiber	~18%
Look the label as a synbiotic	~15%
Look for fiber specific activity on the gut microbiota (e.g. prebiotic/probiotic combination)	~12%
Look for fiber specific activity on the gut microbiota (e.g. prebiotic/probiotic combination)	~10%
Look for fiber specific activity on the gut microbiota (e.g. prebiotic/probiotic combination)	~8%
Look for fiber specific activity on the gut microbiota (e.g. prebiotic/probiotic combination)	~6%
Look for fiber specific activity on the gut microbiota (e.g. prebiotic/probiotic combination)	~4%
Look for fiber specific activity on the gut microbiota (e.g. prebiotic/probiotic combination)	~3%
Look for fiber specific activity on the gut microbiota (e.g. prebiotic/probiotic combination)	~2%
Look for fiber specific activity on the gut microbiota (e.g. prebiotic/probiotic combination)	~1%
Look for fiber specific activity on the gut microbiota (e.g. prebiotic/probiotic combination)	~0%

Note: All prebiotic users n=1263. Question: "When you select what prebiotic to purchase, do you look for any of the specific information on the label?"

ITC Insights 2022 Consumer Engagement Study Survey

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### Precision Prebiotics – Key to Microbiome Diversity

Alteration in gut composition, “selectivity” and host benefit are impacted by prebiotic structure.

**Precision prebiotics** have high specificity when feeding gut bacteria, leading to more selective alterations in the microbiome.

Key Advantages:

- ✓ Low dose
- ✓ Minimal side effects (bloating, discomfort)
- ✓ Selective growth of good bacteria
- ✓ Pleiotropic (anti-inflammatory) effects
- ✓ Probiotic substrate in synbiotic formulas

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### Keystone Species as a Target for Gut Microbial Diversity

*“These taxa have a unique and crucial role in microbial communities, and their removal can cause a dramatic shift in microbiome structure and functioning”*

Source: Turlek, et al. Next Generation Microbiome Research: Identification of Keystone Species in the Metabolic Regulation of Host Gut Microbiota Interplay. Front. Cell Dev. Biol. 2021;9:626667. <https://doi.org/10.3389/fcell.2021.626667>

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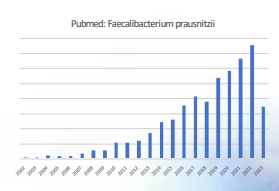
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**Faecalibacterium prausnitzii (F. prau) – A Gut Microbiome Hero** 




Pubmed: Faecalibacterium prausnitzii



F. prau is a main butyrate-producing bacteria

- Accounts for approx. 5-15% of total gut microbiome
- Key energy source for colon cells
- Shown to reduce local increased intestinal permeability
- Anti-inflammatory
- Protects against pathogens
- Supports immune response

F. prau is not available as a probiotic supplement (D. sensitive)




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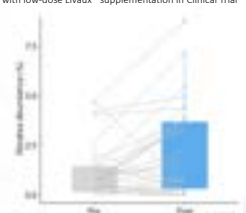


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**Livaux**  Best in class precision prebiotic from gold kiwi – whole fruit benefit for rebalancing the microbiome and leaky gut support 

Significant increase in relative abundance of Faecalibacterium prausnitzii with low-dose Livaux® supplementation in Clinical Trial


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

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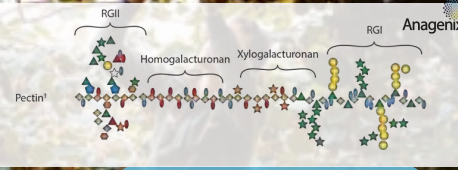
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**Livaux**  



Livaux pectin - a complexity on which F. prau thrives

- Livaux contains complex kiwifruit pectin.
- Gentle processing ensures structural and compositional diversity is retained.
- F. prau has a preference for highly methylated pectin core.
- Livaux pectin is highly methylated.
- Ferments slowly along entire length of colon.
- Supports microbiome diversity.
- Minimizes bloating and discomfort.




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**Livaux – Highly selective gold kiwi prebiotic for microbiome diversity**

F. prausnitzii represents a Next Generation Probiotic in Gut Health, which requires a next level prebiotic - Livaux - that could increase the abundance of F. prausnitzii in the gut.

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**PreticX** Selectively Bifidogenic XOS Prebiotic

1. Selective prebiotic:
  - feeds certain classes of "good" bacteria without increasing "bad" bacteria in the gut
2. Effective at Low dosage (1 g/day)
  - Other prebiotics and fibers require high dosages 2-10 g (difficult to formulate and more side effects)
3. Supported by over 12 human clinical studies
4. Low side effects: due to low effective dosage
5. Excellent heat and acid stability
  - pH: stable at 2.3 – 8.0
  - Heat: stable at 80°C to 120°C
6. Favorable organoleptic properties: neutral, slightly sweet
7. Suitable for multiple product applications
  - Capsules, tablets, powder, drink, food
8. Non-GMO Project Verified
9. Organic grade available

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**PrebioX** Reconditions Gut Composition by Promoting Microbial Diversity

GutHealth

Figure 10

KEY: ■ 1.4g ■ 2.9g

Time Point	1.4g (% Increase)	2.9g (% Increase)
4 weeks	~5	~20
8 weeks	~10	~18
12 weeks	~5	~15

a p<0.05 to p=0.052

Significant increase in *Akkermansia*

Metabolism  
Energy Harvesting  
Weight Management

Firmicutes  
Lactobacillus

Bacteroidetes  
B. Fragilis

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UCLA study (Dr. Li and Dr. Heber, et al Food Funct., 2014, 5, 436)

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PreticX® Benefits Summarized from Human Clinical Studies

Recommended Use	Claims	Dose	Duration
Prebiotic	<ul style="list-style-type: none"> <li>• Prebiotic/a source of prebiotic</li> <li>• Helps support gastrointestinal health</li> <li>• Benefits/increases healthy GI bacteria</li> <li>• Promote favorable gut flora</li> <li>• Stimulate the growth of healthy bacteria (such as bifidobacteria)</li> <li>• Healthy balance of good and bad bacteria</li> <li>• Inhibits growth of harmful bacteria</li> </ul>	1 gram	4 weeks
Digestive Regularity	<ul style="list-style-type: none"> <li>• Support/maintain healthy digestive system</li> <li>• Improve intestinal regularity</li> <li>• Gentle relief of constipation/bowel regularity</li> </ul>	0.5 gram 1.5 grams	2 weeks 5 days
Metabolic Health	<ul style="list-style-type: none"> <li>• Helps support healthy blood sugar levels</li> <li>• Helps support healthy blood lipid levels</li> <li>• Helps to lower glycemic index</li> </ul>	3 grams	8 weeks
Immune Support	<ul style="list-style-type: none"> <li>• Helps maintain healthy immune function</li> <li>• Helps stimulate immune function</li> <li>• Provides immune support</li> </ul>	8 grams	3 weeks

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**Actazin – green kiwi powder: a holistic solution for bloating and discomfort**

Low dose 600 mg

01. Improves stool form
02. Supports bowel regularity by gently facilitating laxation
03. Enhances protein digestion
04. Supports digestive comfort
05. Natural, clean-label
06. Sustainably sourced, fully traceable

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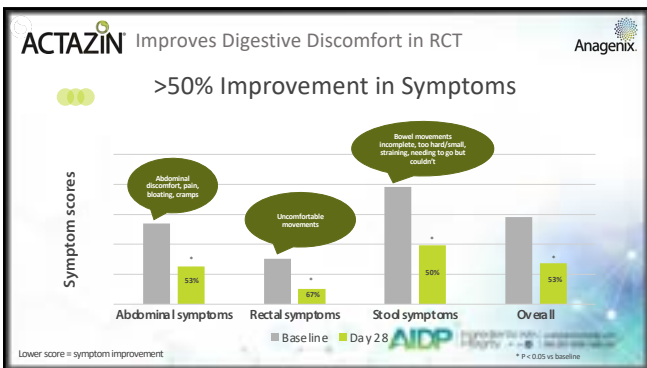
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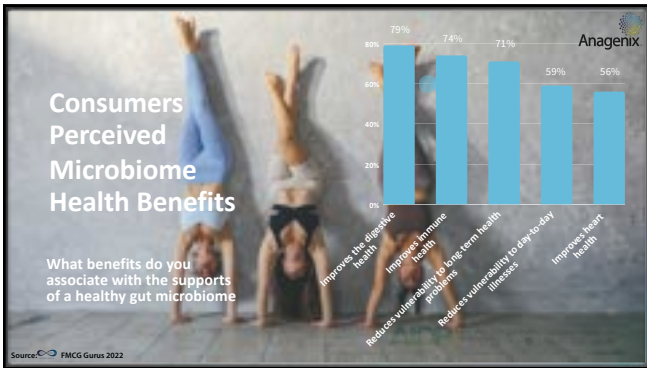
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### To Recap:

- Microbial diversity is key to healthy gut function
- Consumers want simplicity in messaging
- Precision prebiotics that target keystone microbial species are emerging in the digestive health space
- Synbiotics are a huge opportunity – with addition of prebiotics for formula differentiation and improving GI comfort
- The link between gut health and other areas (immunity, healthy aging, brain health, skin health) is becoming more recognized

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# AIDP

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Thank You

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