



# ARONVIT<sup>®</sup>

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ARONVIT<sup>®</sup>

## New ex vivo research by Greenvit<sup>®</sup> confirming the effects of polyphenols on the gut microbiome.

### Abstract

**ARONVIT<sup>®</sup>** is a standardized aronia (*Aronia melanocarpa*) extract rich in polyphenols, designed to modulate gut microbiota composition and activity. Ex vivo evaluation using advanced SIFR<sup>®</sup> technology demonstrates a rapid and measurable microbiome response, including selective stimulation of beneficial bacterial groups.

### Study Design

**Model:** SIFR<sup>®</sup> ex vivo

**Samples:** Human gut microbiota (diverse profiles)

**Incubation time:** 24 hours

**Intervention:** Single-dose administration

### Composition

- Anthocyanins (Cy-3-gal, Cy-3-glu, Cy-3-ara, Cy-3-xyl)
- Flavonols and flavanols
- Phenolic acids
- Composition confirmed by LC-MS and HPLC

### Key Result

**+21% Gut Bacteria in 24h**

- ✓ Rapid microbiome activation
- ✓ Prebiotic-like effect
- ✓ Increased bacterial biomass

Most significantly increased bacterial families:

| Family             | Change  |
|--------------------|---------|
| Eggerthellaceae    | 182,33% |
| Coprobacillaceae   | 155,50% |
| Ruminococcaceae    | 52,95%  |
| Bifidobacteriaceae | 34,13%  |

### Associated with

- polyphenol metabolism
- fiber degradation
- SCFA production

### Negative Shift

**↓ Clostridiaceae -12.95%**

- ↓ Reduction of opportunistic bacteria
- ↓ Lower pro-inflammatory potential

### Interpretation

#### Selective microbiome modulation

- polyphenols
- microbial metabolism
- SCFA pathways
- gut ecosystem stability



# Mechanistic Insights & Functional Relevance



## Mechanisms of Action

### 1. Cross-Feeding

- Primary bacteria metabolize polyphenols
- Secondary bacteria convert metabolites into SCFA
- Enhanced microbial cooperation

### 2. Butyrate Production

Stimulation of key bacteria:

- ✓ *Faecalibacterium prausnitzii*
- ✓ *Anaerobutyricum hallii*

**Supports:**

- gut barrier integrity
- anti-inflammatory balance
- colonocyte energy metabolism

### 3. "Next-Generation" Bacteria

**+128%** *Dysosmobacter welbionis*

- ✓ Associated with improved metabolic parameters
- ✓ Linked to reduced adiposity (emerging research)

Top Bacterial Increases:

| Taxa                    | Change  |
|-------------------------|---------|
| Oscillospiraceae        | 308,99% |
| Faecalibacillus         | 159,19% |
| Eubacterium l. ramulus  | 150,86% |
| Dysosmobacter welbionis | 128,65% |

## Strong link to:

- SCFA production
- metabolic health
- microbiome stability

## Positioning

### Polyphenol-Driven Microbiome Modulator

- ✓ Targeted microbiome support
- ✓ SCFA production
- ✓ Metabolic balance

### Application Potential

- Gut health formulations
- Metabolic support products
- Microbiome-targeted supplements
- Next-generation synbiotic concepts

## Recommended Dose 200–300 mg / day



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#### Source:

Greenvit internal research. ARONVIT® evaluated ex vivo using SIFR® technology on human gut microbiota samples.

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