



### Value Proposition



Our novel antimicrobial solution, derived from a gut isolate producing the bacteriocin nisin G, offers a natural and effective alternative to traditional antibiotic therapies. This innovative therapeutic targets the harmful pathogen *Fusobacterium nucleatum*, known to induce pro-inflammatory and oncogenic activities in the gastrointestinal tract, without disrupting the gut microbial balance. The potential applications extend to controlling pathogen growth in the vaginal microbiome, highlighting its versatility and clinical relevance.



### Opportunity

*Fusobacterium nucleatum* is a significant human pathogen linked to various gastrointestinal pathologies, including colorectal cancer (CRC). Traditional antibiotic treatments for *F. nucleatum* infections can disrupt the gut microbiota and face increasing antibiotic resistance. Our antimicrobial solution presents a promising alternative, with demonstrated anti-*Fusobacterium* activity in a simulated colon model. The growing demand for targeted, microbiota-sparing therapies in both gastrointestinal and vaginal health sectors underscores the market potential for this innovation.

### Development Stage



The technology is currently at Technology Readiness Level (TRL) 4, having been validated in the laboratory.

An International PCT application has been filed by MTU and Teagasc (PCT/EP2022/087124), positioning the technology for further development and commercialisation.

### Advantages



- Targets *Fusobacterium nucleatum* specifically, reducing the risk of disrupting the gut microbial balance.
- Potential for use as a biotherapeutic in preventing colorectal cancer and other cancers.
- Applicability in controlling pathogen growth in the vaginal microbiome.
- Produced by an organism that could be developed as an oral probiotic, enhancing its functional food development potential.