

μBIOM™
Synbiotic solutions by Chr. Hansen

WOMEN'S HEALTH



Supporting women through menopause and beyond

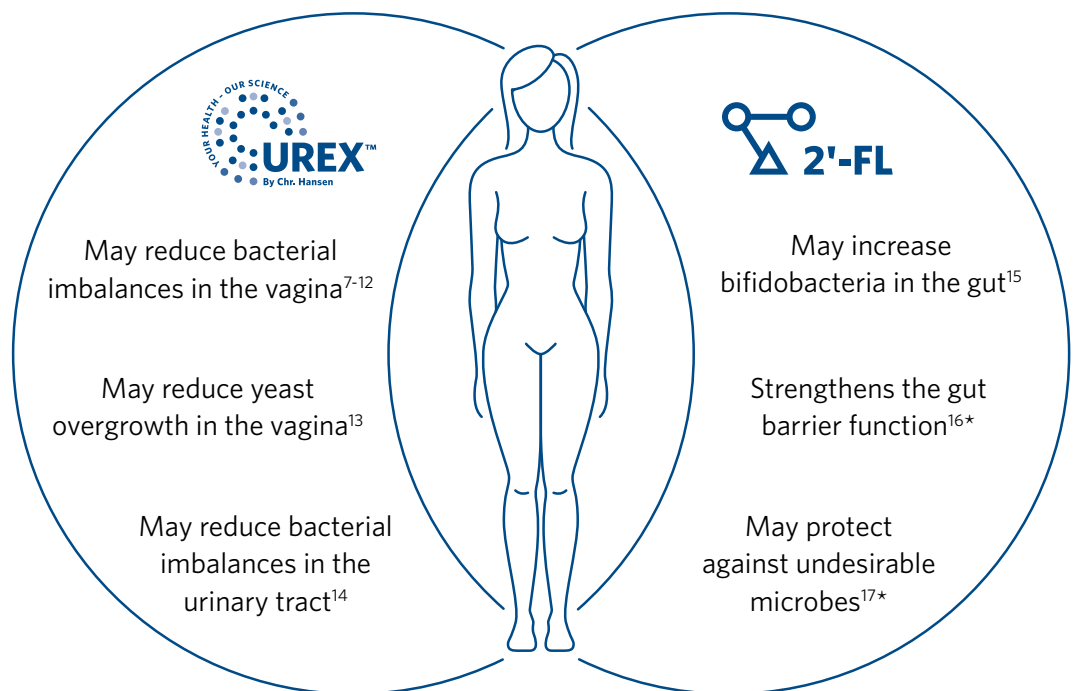
Throughout a woman's life, a balanced microbiome is key to maintaining health. When the microbiome's natural balance is disturbed during menopause, women can experience a wide range of health challenges that can affect the entire body and general wellbeing.

As estrogen production decreases during menopause, and the abundance of certain bacteria in the gut and vagina declines,^{1,2} many women experience health challenges, such as gastrointestinal discomfort³, vaginal discomfort⁴, urinary tract discomfort⁵, and a challenged immune system⁶.

Combining the best of both worlds

Chr. Hansen premium synbiotics combine our exceptional probiotic strains and human milk oligosaccharides (HMOs) to create health benefits.

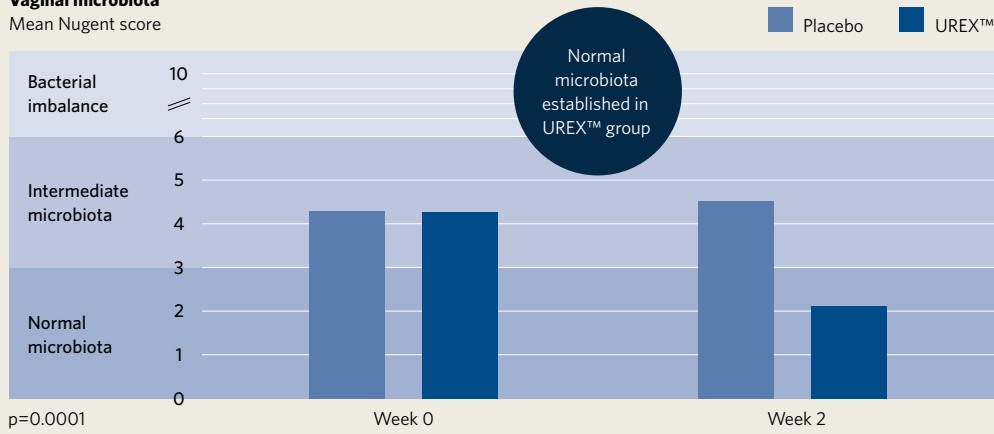
The combination of the most clinically documented probiotic for female urogenital health, UREX™, and the most studied HMO, 2'-FL, supports mature women's health.



UREX™ – the most clinically documented probiotic for female urogenital health

Vaginal microbiota

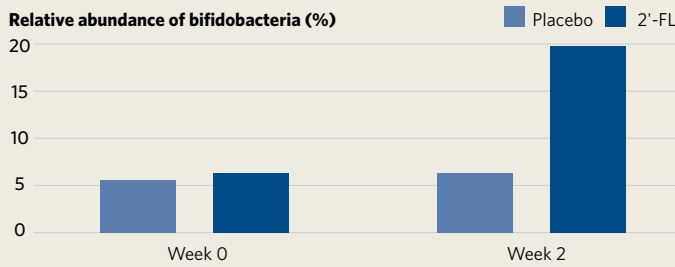
Mean Nugent score



A randomized double-blind controlled trial including 72 post-menopausal women with intermediate vaginal microbiota showed that the UREX™ blend supports a balanced vaginal microbiota. Women were randomized to receive the UREX™ blend or placebo. After 2 weeks, a normal vaginal microbiota was established in the UREX™ group while the placebo group showed no significant improvement.⁷

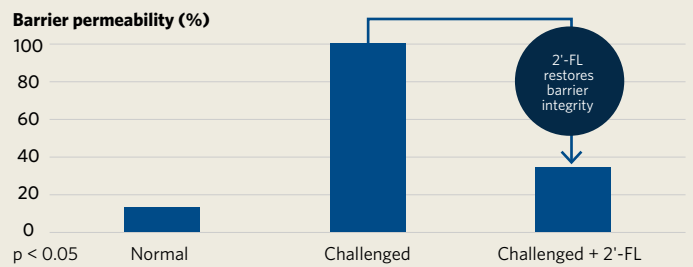
Our Science

2'-FL increases the abundance of bifidobacteria in the gut



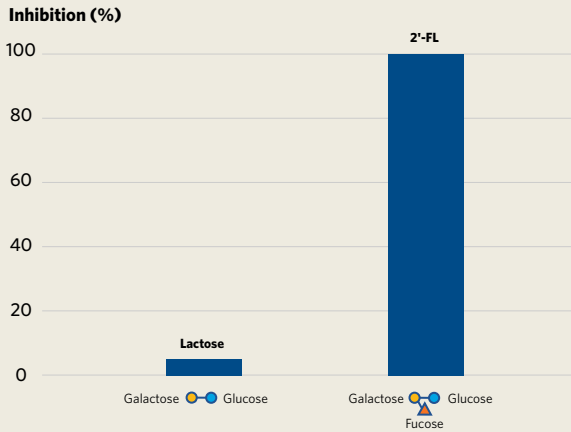
A randomized double-blind controlled trial including 100 healthy adults showed that 2'-FL increases the abundance of bifidobacteria in the gut. Subjects were randomized to receive 2'-FL or placebo for 2 weeks. The study found a 3-fold increase in bifidobacteria abundance in the 2'-FL group compared to placebo.¹⁵

2'-FL supports intestinal barrier function



2'-FL has been shown to restore gut integrity *in vitro*. Gut permeability was low under normal conditions, while it increased significantly when the model was challenged. Addition of 2'-FL led to a significant reduction in gut permeability in the challenged model, indicating that 2'-FL can restore gut integrity.^{16*}

2'-FL may block the adhesion of undesirable microbes to the intestinal surface



An *in vitro* study suggests that 2'-FL may block adhesion of undesirable microbes to the intestinal surface. The study used human norovirus as a model organism and compared adhesion of norovirus to intestinal cells in the presence of lactose or 2'-FL. Lactose is structurally similar to 2'-FL but did not inhibit adhesion of the virus. 2'-FL blocked adhesion of the virus efficiently, indicating that 2'-FL may help protect against undesirable microbes by functioning as a decoy that flushes these microbes out of the body.¹⁷

Product opportunities

Potency claim end of shelf life 24 months at 25°C or 30°C

- UREX™ 2 billion CFU/unit
- Format: sticks, capsules, chewable tablets
- Contains: Chr. Hansen 2'-FL 1g (2'-Fucosyllactose)

Other potential claims and added benefits:

- Halal/Kosher dairy
- Lacto-ovo vegetarian, no artificial colors, no preservatives
- Gluten level <20ppm

References

1. Peters et al. Int J Womens Health. 2022. | 2. Muhleisen et al. Maturitas. 2016 | 3. Triadafilopoulos et al. Women Health. 1998. | 4. Alvisi S, et al. Medicina (Kaunas). 2019. | 5. Medina et al. Ther Adv Urol. 2019 | 6. Ghosh M, et al. J Steroid Biochem Mol Biol. 2014. | 7. Petricevic et al. Eur J of Obstet Gyn Repr Bio. 2008. | 8. Anukam et al. Microbes Infect. 2006. | 9. Martinez et al. Can J of Microbiology. 2009. | 10. Vujic et al. Eur J of Obstet Gyn Repr Bio. 2013. | 11. Reid et al. FEMS Immunol Med Microbiol. 2003. | 12. Reid et al. J Med Food. 2004. | 13. Martinez et al. Lett Appl Microbiol. 2009. | 14. Beerepoot et al. Arch Intern Med. 2012. | 15. Elison et al. Br J Nutr. 2016 | 16. Natividad et al. Nutrients. 2020. | 17. Koromyslova et al. Virology. 2017.

*Emerging science: Statements are based on *in vitro* data. Similar effects have not yet been reported in vivo. This communication, on ingredients intended for consumer goods, is only intended for business-to-business and healthcare professionals. This communication is not intended for consumers of final consumer goods.