



GENESTRA
BRANDS®

HMF® Vaginal Health

Probiotic vaginal suppository

- Helps support vaginal health and promote a favourable vaginal microbiome
- Vaginal suppositories allow direct vaginal application of probiotics for effective results
- No refrigeration necessary

HMF® Vaginal Health probiotic contains *Lactiplantibacillus plantarum* KABP™-061, a patented human strain with unique properties for restoring the vaginal flora and a high capacity for adherence to the vaginal mucosa. In healthy women, *Lactobacilli* are the predominant bacteria in the vaginal ecosystem and exert a significant influence in maintaining a balanced microbiota of the vagina by inhibiting the overgrowth of undesirable bacterial species.¹⁻³ By producing lactic acid, *Lactobacilli* stabilize the vagina's physiological pH and help the body's natural defence mechanisms to ward off fungal overgrowth that can lead to vaginal infections.¹ Moreover, by colonising the vaginal cavity, they form a protective film that inhibits the growth of other unwanted microorganisms.⁴ *L. plantarum* KABP™-061 was specifically selected for its high ability to acidify the vaginal environment, for demonstrating inhibition of common UTI pathogens (including *E. coli*, *S. saprophyticus* and *P. mirabilis*) and its antimicrobial properties against *Candida albicans* and *Candida glabrata*.^{5,6} An open-label, prospective and comparative study found the use of the probiotic *L. plantarum* KABP™-061, after antifungal treatment for vulvovaginal candidiasis (VVC), significantly reduced all vaginal symptoms assessed (i.e. leucorrhoea, erythema, edema, stinging, itching, pain and bad odour) after 14 days.^{5,6} Promoting a healthy vaginal flora reduces the likelihood of fungal overgrowth, which in turn reduces the chances of infections. This was seen in the same study, which reported *L. plantarum* KABP™-061 as useful in reducing the number of cases of recurrence by 60% in women with recurrent vulvovaginal candidiasis (RVVC).^{5,6} HMF® Vaginal Health may be used to help support and maintain a healthy vaginal flora.



EACH SUPPOSITORY CONTAINS:

Lactiplantibacillus plantarum (KABP™-061)0.1 billion CFU

Non-Medicinal Ingredients: Lactose, microcrystalline cellulose, hypromellose, croscarmellose sodium, citric acid, magnesium stearate, colloidal silica gel, maltodextrin

Contains: Milk



Floradapt™ and KABP™ are trademarks of Kaneka Corporation.

Recommended Dose

Adult Females: Apply 1 intra-vaginal suppository 3 times a week on alternative days for 2 months (excluding days with menstruation), or as recommended by your healthcare practitioner. Take at least 2-3 hours before or after taking antibiotics.

Size	Product Code	UPC
7 Vaginal Suppositories	10568-7C	883196156085

NPN 80107213



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HMF[®] Vaginal Health

Scientific Rationale:

HMF[®] Vaginal Health probiotic contains *Lactiplantibacillus plantarum* KABP™-061, a patented human strain with unique properties for restoring the vaginal flora and a high capacity for adherence to the vaginal mucosa. In healthy women, *Lactobacilli* are the predominant bacteria in the vaginal ecosystem and exert a significant influence in maintaining a balanced microbiota of the vagina by inhibiting the growth of undesirable bacterial species.¹⁻³

Probiotic properties are strain-specific, so their positive health effects cannot be extrapolated to other strains of the same species or genus.⁴ *L. plantarum* KABP™-061 is a selected, patented human strain that has been tested *in vitro*, showing good adherence to vaginal epithelial cells (VEC), high acidification of simulated vaginal media, high tolerance to antimicrobial factors of inflamed vaginal fluid, and intrinsic resistance to high concentrations of some typical antibiotics (ATB) and antifungals used for vaginal infections.⁵

The adhesion capacity of *L. plantarum* KABP™-061 to vaginal epithelial cells was tested in relation to the control strain *L. plantarum* P17630. *Lactobacillus* strains were labelled with tritiated thymidine and incubated with confluent cultures of Hela cells, a cell line obtained from the epithelium of the vaginal cervix. Results showed that the strain *L. plantarum* KABP™-061 displayed a higher adherence to vaginal epithelial cells than the control strain.⁶

The ability to survive in the vaginal environment requires bacterial strains to be resistant to the acidic pH of the vaginal fluid, to several antimicrobial factors including antibacterial proteins (lysozyme and lactoferrin), and to antimicrobial peptides (SLPI, catelicidin and defensins of types α , β and θ). A simulated vaginal fluid, to which antibacterial proteins (lysozyme) and peptides (β -3 defensin) were added, was used to evaluate the survival potential of *L. plantarum* KABP™-061. *L. plantarum* KABP™-061 showed resistance to various lysozyme concentrations (up to 16 mg/L) and β -3 defensin, while the control strain *L. plantarum* P17630 showed a marked decrease in viability (90%) when exposed to high concentrations of lysozyme, such as those found in many cases of vulvovaginal candidiasis (VVC).⁶

L. plantarum KABP™-061 modifies the vaginal microflora mainly through its capacity to acidify vaginal fluid and lower the vaginal pH, its anti-microbial properties against *C. albicans* and *C. glabrata*, and its ability to compete with *Candida* for adherence to the vaginal epithelium. Healthy vaginal microflora help prevent the overgrowth of undesirable bacterial species through acidification of the vaginal fluid (i.e. high production of lactic acid). Inoculation of modified, simulated vaginal fluid with *L. plantarum* KABP™-061 demonstrated the strain's high capacity to acidify vaginal fluid when the pH is above optimum.⁶ Additionally, *L. plantarum* KABP™-061 has shown a greater spectrum of inhibition against common UTI pathogens (including *E. coli*, *S. saprophyticus* and *P. mirabilis*) than other probiotics tested (*L. plantarum* P17630, *L. rhamnosus* GR-1, and *L. reuteri* RC-14).⁶

Maintaining a strong vaginal ecosystem is desirable to fend off *Candida* strains and reduce the risk of vulvovaginal candidiasis (VVC) recurrence.⁵ The normal vaginal flora may contain small numbers of *Candida*, a genus of yeasts, without any symptoms of disease.⁷ However, symptoms appear when the vaginal flora equilibrium is disturbed and weakened, leading to an increase in the population of *Candida* compared to the protective number of resident *Lactobacilli*. The vaginal microbiota can be altered by numerous factors including stage of life cycle, hormone levels, immune responses, nutritional status, disease states, or hygiene behaviours.⁸ In fact, yeast infections are extremely common, with an estimated 500 million cases per year globally⁹ and are mainly associated with *Candida albicans* (followed by *Candida glabrata*).¹⁰ *L. plantarum* KABP™-061 was tested for its inhibitory activity against *C. albicans* and *C. glabrata* using the agar overlay method. Results indicated a higher activity against the two *Candida* species when compared to the control strain *L. plantarum* P17630.⁶

Vulvovaginal candidiasis (VVC) is a fungal infection of the vulva and/or vagina that accounts for approximately one-third of cases of vaginitis. *Candida albicans* is the most common pathogen in VVC and is isolated in 85 to 90% of cases.¹¹ Besides antibiotic therapy, VVC infection is also common in women taking oral contraceptives containing estrogens, in pregnant women,¹² and in women with diabetes.¹³ An open-label, prospective and comparative study found the use of the probiotic *L. plantarum* KABP™-061, after antifungal treatment for vulvovaginal candidiasis (VVC), significantly reduced all vaginal symptoms assessed (i.e. leucorrhoea, erythema, edema, stinging, itching, pain and bad odour) after 14 days.^{5,14} Promoting a healthy vaginal flora reduces the likelihood of fungal overgrowth, which in turn reduces the chances of infections. This was seen in the same study, which reported *L. plantarum* KABP™-061 as useful in reducing the number of cases of recurrence by 60% in women with recurrent vulvovaginal candidiasis (RVVC).^{5,14} *L. plantarum* KABP™-061 also demonstrated a natural resistance to common antifungal treatment medications such as Fluconazol, Micronazol and Nystatin.⁶

Probiotics can be administered vaginally or orally because *Lactobacilli* can ascend passively from the rectum to the vagina.¹⁵ However, the time for oral probiotic intervention to affect the vaginal tract is longer than direct vaginal application and depends on viability of the strains as they pass through the stomach and gut. Additionally, the load of *Lactobacilli* that can be delivered orally is lower than via vaginal administration.¹⁵ Vaginal administration facilitates the introduction of *Lactobacilli* inside the vagina at the optimal depth. HMF[®] Vaginal Health probiotic vaginal suppositories can be used to help maintain a healthy vaginal microflora.

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