Prevention of recurrent urinary tract infections

A urinary tract infection (UTI) is a bacterial infection of the urinary tract and occurs at least once in a lifetime among one third of women\(^1\,2\). A recurrent UTI (rUTI) is defined as three or more UTIs per year. Between 35% to 53% of women treated for UTIs will experience an rUTI within twelve months\(^3\).

Studies have shown that the urinary tract is inhabited by micro-organisms and has its own unique microbial community\(^4\,5\). While it is still unknown what causes a UTI, some factors thought to disturb the urinary tract are changes in hygiene, medication, sexual activity, and diet (see figure 1). The treatment standard for UTIs are antibiotics. Although antibiotics are very effective initially, they don’t work the same way for every patient and are not ideal for long term use, as happens in preventative use for rUTIs. Also, there is no consensus on the ideal dose, duration, and schedule within UTIs\(^6\). Antibiotics cannot support the host defences and therefore don’t help to resolve the risk of long-term infection recurrence\(^7\). Finally, antibiotics come with many negative side effects such as antibiotic resistance. These side effects have prompted researchers to look into alternatives such as probiotics to support treatment and to prevent rUTIs.

### Strain selection

Winclove Clear is a multispecies probiotic food supplement developed to prevent rUTIs. The formulation consists of 7 specifically selected probiotic strains. The bacterial strains of Winclove Clear have been selected for their capacity to inhibit uropathogen growth in the vagina, bladder and gut (level 1), to strengthen the intestinal barrier (level 2), and stimulate the immune system in the gut (level 3), see figure 2. The bacterial strains have been screened for their capacity to:

- compete with uropathogens for attachment sites and nutrients\(^8\)
- strengthen the gut barrier function
- produce antibacterial agents such as hydrogen peroxide\(^8\)
- acidify the environment through lactic acid production
- support the host immune system.
Inhibition of the uropathogen E. coli by probiotic strains in Winclove Clear. The higher the inhibition zone, the better the inhibition.