Prevention of Upper Respiratory Tract Infections

Upper respiratory tract infections (URTIs), more commonly known as the cold, a sore throat and the flu, are caused by an (acute) infection of a region in the upper respiratory tract. URTIs are a common problem and the number one reason for a doctor’s visit. URTIs can develop from a disruption of the local microbiota by viruses and bacteria.

Frequently occurring URTIs are bacterial ear and throat infections. Particularly young children are prone to URTIs due to an immature immune system and high colonization rates of potential pathogens in the upper respiratory tract. In addition, their anatomical immaturity also makes them more susceptible to URTIs. Treatments of URTIs vary between countries and include prescription of antibiotics or, in more severe cases, surgery. In some cases doctors let the infection run its course, causing discomfort and stress to the child and its parents. A major disadvantage of the traditional treatments is that they only relieve symptoms and fail to tackle the underlying cause leading to recurrence. Therefore, Winclowe has developed Winclowe 381 Respiratory. The bacterial strains in Winclowe 381 Respiratory restore the microbial balance in the upper respiratory tract and boost the immune system. The product offers a natural means for the prevention of URTIs.

Winclowe 381 Respiratory

Winclowe 381 Respiratory is a multispecies probiotic food supplement for the prevention of URTIs. The probiotic formulation is active at two levels and in two regions of the body (see figure 2).

The bacterial strains in Winclowe 381 Respiratory have been specifically selected for their capacity to:

1. inhibit URTI related pathogens such as; S. pneumoniae, H. influenzae, M. catarrhalis, and S. pyogenes (level 1: microbiota management)
2. positively influence the immune system (level 3: immunomodulation)
Clinical and in vitro evidence

Wincloue 381 Respiratory has been developed as preventive therapy for URTIs. The formulation consists of 6 probiotic strains and vitamin C, which is needed for tissue growth and repair in all body parts.

Two strains in the formulation, *Streptococcus oralis* 89a and *Lactobacillus rhamnosus* LB21, have shown positive effects in preventing ear- and throat infections in several clinical trials. In addition, the bacterial strains, *Lactobacillus rhamnosus* WGG and *Bifidobacterium animalis* W19, have been added to the formulation since they have demonstrated beneficial effects in preventing the common cold.

Moreover, the last two strains in the formulation, *Bifidobacterium lactis* W51 and *Lactococcus lactis* W19, have been added for their capacity to boost the immune system function. *Lc. lactis* W19 has shown in vitro excellent capability to induce T<sub>H</sub>1 cells (see figure 3) and *B. lactis* W51 has shown in vitro excellent capability to induce IFN-γ (see figure 4). Both T<sub>H</sub>1 cells and IFN-γ cytokines are involved in regulating the immune response.

### References

9. The EFSA journal. 2007;58:1-16

### Safety and Quality Profile

All probiotic strains in Wincloue 381 Respiratory have the Qualified Presumption of Safety (QPS)-status or an extensive safety file. Wincloue is a NSF International Certified GMP facility for manufacturing dietary supplements. Wincloue’s food safety management system is ISO 22000:2005 certified for the development and production of pre- and probiotics.