



# PROBIOTIX

## THE SCIENCE BEHIND

## THE BACKGROUND

Our digestive system (gut) is central to supporting our health, containing as many bacterial cells (known as the gut microbiota) as we have human cells in our whole body. Research has shown that certain types of these bacteria can have both positive or negative impacts on our gut health, immune function and even our cognition and mood.

The idea of ingesting beneficial bacteria (either through diet or supplementation) has been observed for over 100 years. Bacterial strains that are shown to have beneficial effects to the host (often called probiotics) have been supplemented traditionally for the prevention or treatment of a variety of diseases, are now being recognised in athletes for improving general health and exercise performance.

## THE SCIENCE

There are many bacteria-based probiotic products that are commercially available. Each of these will likely contain different types of bacterial strains and different doses. It is therefore important to select those that have been used in research trials and shown to be of benefit for the desired health outcomes (nor have any negative side effects).

The exact strains and doses in Nutrition X's Probiotix capsules are some of the most researched strains in the world. In particular, these probiotic strains have been used in numerous trials with athletic populations. Early research showed that these bacterial strains were associated with an increase in running performance in the heat – although the mechanism could not be identified. Dr Justin Roberts has investigated the effect of supplementation in ultramarathon runners and ironman triathletes. In triathlete athletes, probiotic supplementation reduced the incidence of gastrointestinal (GI) symptoms (such as bloating, stomach cramps, flatulence) during training.

More recently, research from Professor Graeme Close's lab in Liverpool has looked at the effects of these specific probiotic strains on endurance athletes. In their first study, they were able to show that when marathon runners supplemented with a probiotic, they had fewer GI symptoms during training. The runners also had less severe GI symptoms during a marathon race, compared with the placebo group. The lower severity of gut symptoms was also shown to maintain race performance, which makes sense given that it is hard to exercise maximally with GI symptoms.

This work has been followed up with data from a group of cyclists showing that probiotics can increase the ability to use carbohydrates that we consume during exercise. This recent (and continued) data in athletes adds to the body of studies using these specific probiotic strains to have found benefits to IBS patients, individuals that require a course of antibiotic treatment and symptoms of anxiety and stress.

While we can certainly reap the rewards of 'improving' our microbiota through a diet rich in vegetables, fruits and other sources of fibre and prebiotics (food for our bacteria), there is now enough evidence to show the additional benefits of the correct probiotic supplements for athletes during specific periods. It is crucial, however, that the correct dose and strains are selected, which we have done for you in designing Probiotix.

