

Programme: IRCRO

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GENPrevent

Research on Genetic Predispositions and Development of a Test for the Prevention of Sports Injuries

Modern sports genomics studies the connection between genotype and physical activity, performance, endurance, and susceptibility to exercise-induced injuries. Soft tissue and musculoskeletal injuries, such as Achilles tendon injuries in the heel and anterior cruciate ligament (ACL) injuries in the knee, are two of the most common sports injuries, both in recreational athletes and professional sportspeople. Recent studies show that physically active individuals who engage in sports and have suffered Achilles tendon injuries often share certain genetic characteristics.

The goal of the project is to investigate genetic predispositions to sports injuries and develop the GENPrevent test, which would identify these predispositions. Based on this information, a program for customized exercise would be created to prevent sports injuries. The project will result in the introduction of a new DNA test in the Genos DNA laboratory portfolio, which will provide top athletes and recreational athletes with information about their injury susceptibility. Based on their genetic predispositions, and in consultation with specialists, a personalized exercise plan will be created to reduce the likelihood of sports injuries and the consequences of long-term rehabilitation and absence from the sports field, which is especially important for professional athletes.

Ligament and tendon injuries in recreational athletes often mean a complete cessation of recreational sports, which increases the likelihood of adopting an unhealthy lifestyle, weight gain, and potential development of cardiovascular diseases or diabetes. To make the product more accessible to a wider population and not just professional athletes, a sample collection kit is also planned, which can be ordered by mail or purchased at pharmacies.