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Doping in Sports | Detlef Thieme | Springer

Abstract. Gene doping abuses the legitimate approach of gene therapy. While gene therapy aims to correct genetic disorders by introducing a foreign gene to replace an

existing faulty one or by manipulating existing gene(s) to achieve a therapeutic benefit, gene doping employs the same concepts to bestow performance advantages on athletes over their competitors.

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threat to the integrity of sport and the health of athletes. As the international organization responsible for promoting, coordinating and monitoring the global fight against doping in sport in all its forms, WADA is devoting significant resources and attention to ways that will enable the detection of gene doping.

Gene doping | genetics and sports | Britannica

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GENE DOPING IN SPORT - PERSPECTIVES AND RISKS

What if you could hack

your DNA to run faster, jump higher or become stronger? Gene doping is an advanced medical technology that could help athletes recover from injuries, but could also be used ...

Doping in sports has been defined by the World Anti-Doping Agency (WADA) as the “occurrence of one or more anti-doping rule violations” that have been further detailed in the World Anti-Doping Code [1]. Those rules include the presence of a prohibited substance or its metabolites or markers in an athlete’s bodily specimen, the use or attempted use of a prohibited substance or method ...

From Gene Engineering to Gene Modulation ... - SpringerLink

Sports authorities say they will soon start testing athletes for genetic enhancements. But gene doping is going to be impossible to detect, and it is counterproductive to outlaw it

In 2003, although no athletes were known to have experimented with gene doping, the World Anti-Doping Agency, which regulates the use of substances in sports, added the transfer of cells, DNA, or RNA and the use of all other gene-altering

agents, biological or pharmacological, to its list of prohibited substances and methods.

Doping | SpringerLink

Gene or cell doping is defined by the World Anti-Doping Agency (WADA) as “the non-therapeutic use of genes, genetic elements and/or cells that have the capacity to enhance athletic performance”. New research in genetics and genomics will be used not only to diagnose and treat disease, but also to attempt to enhance human performance. In recent years, gene therapy has shown progress and ...

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Erythropoietin Abuse and Erythropoietin Gene Doping ...

Gene Doping | World Anti-Doping Agency

Pros and Cons of Gene Doping - Koushik Kon-dapi

Abstract. The substances and methods forbidden to increase the mass of hemoglobin (Hb) in sports (“blood doping”) include red blood cell (RBC) transfusion, Hb infusion, recombinant or chemical agents that stimulate the erythropoietin receptor, erythro-

poietin gene (EPO) transfer, and misuse of drugs activating endogenous EPO expression. The two latter possibilities are considered in this ...

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Therefore, anti-doping measures cannot rely solely on the continual improvement of doping analyses, but should include increased measures for doping prevention. Not only sports organizations, but also governmental agencies should be involved in developing and implementing these measures. It is a small step from gene therapy to gene doping. I doubt if any athletes at Rio will have successfully manipulated their genes to their advantage – but it is not impossible that there will ...

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How Gene Doping Works | HowStuffWorks

Doping In Sports - Cheating Or Leveling Of The Playing Field?

Progress of research on gene therapy and clinical trials in this area significantly increased the possibilities of gene doping in sport. Simultaneously, the prospect carried by this new method of doping – the creation of a “super athlete” and lucrative professional sports – further complicates the situation. Gene doping is the hypothetical non-therapeutic use of gene therapy by athletes in order to improve their performance in those sporting events which prohibit such applications of genetic modification technology, and for reasons other than the treatment of disease. As of April 2015, there is no evidence that gene doping has been used for athletic performance-enhancement in any sporting events.

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1) Gene doping would violate the cornerstone of sports: fairness. In "muscle mice", the mice with gene doping were able to run twice as far as normal mice. If a result that significant could be replicated in humans, it would make any mental or skill factor insignificant and would afford an unfair advantage to the athlete.

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