

Erythropoietin and doping

¹Dana Adriana Samuilă, ²Remus Orăsan

¹Phd student, „Iuliu Hațieganu” Cluj-Napoca

²“Iuliu Hațieganu” University of Medicine and Pharmacy, Cluj-Napoca

Abstract

Dating back to the earliest Olympics, athletes have been searching for a performance edge. Recombinant human erythropoietin was made commercially available in 1987 to treat various diseases associated with anemia. Within a few years, elite endurance athletes capitalized on its potential as an undetectable performance-enhancing agent. Doping in sports is discouraged by the screening of athletes for rhEPO. Both direct tests (indicating the presence of exogenous EPO isoforms) and indirect tests (indicating hematological changes induced by exogenous EPO administration) can be used for EPO detection. At present, the test adopted by World Anti Doping Agency is based on a combination of isoelectric focusing and double immunoblotting, and distinguishes between endogenous and exogenous rhEPO. More importantly, athletes continue to use more sophisticated doping practices, challenging regulatory agencies, putting their health at great risk, and tainting the spirit of fair competition.

Keywords: doping, erythropoietin, detection, performance, athletes.