

The first urine test to detect insulin doping in athletes

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Scientists in Germany are reporting development of a urine test that finally can identify athletes who misuse certain kinds of insulin in an illicit attempt to enhance performance.

Mario Thevis and colleagues say that amateur and elite athletes reportedly have used long-acting, as well as rapid-acting, forms of insulin to gain an edge — although insulin doping's actual ability to enhance performance remains uncertain.

Their article, scheduled for the April 1 edition of ACS' *Analytical Chemistry*, a semi-monthly journal, states that scientists had not attempted to develop such a test in the past because of the presumption that it was impossible to detect insulin's degradation products, the compounds formed as the body breaks down insulin.

Using urine samples from volunteers, including athletes with diabetes, the scientists were able to identify degradation products from Lantus insulin, one commonly used form of insulin. The test could not identify surreptitious use of two other forms of long-duration insulin, but the study uncovered clues that toward that goal. "Determination of long-acting insulin analogues in urine is of utmost interest for doping control purposes," the study notes. "The developed and validated procedure provides a fast and reliable way to elucidate the potential misuse of the long-acting insulin analogue LAN in regular doping control specimens."

Source: ACS

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