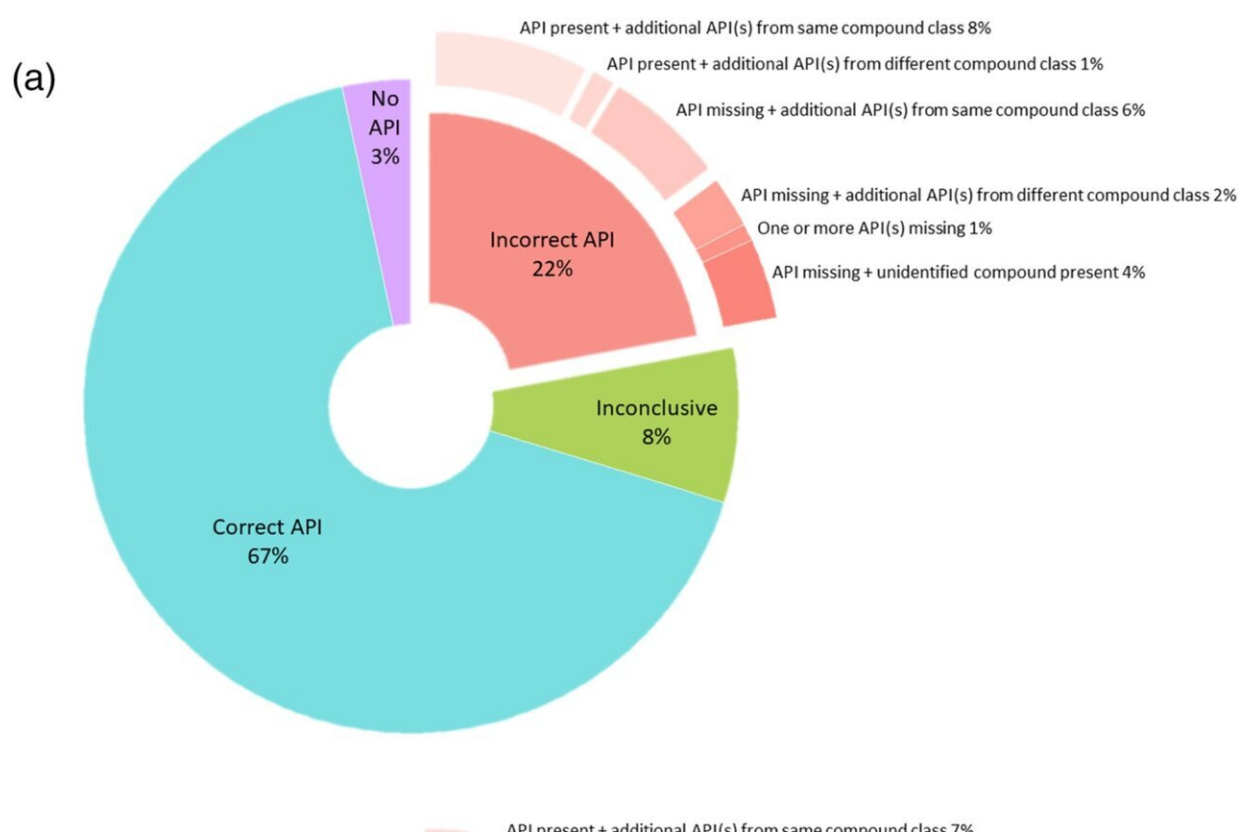


Research reveals that many of the performance-enhancing substances that Danes buy online are counterfeited

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Comparison between the active pharmaceutical ingredient (API) stated on the product label and the actual API found by analyzing the product. Results are divided into (a) products for oral administration (tablets, capsules, and powders), $n = 353$ and (b) products for intramuscular injection (ampoules and flasks), $n = 307$. Some comparisons were inconclusive because no API was stated on the label. Credit: *Drug Testing and Analysis* (2023). DOI: 10.1002/dta.3472

If you buy illegal tablets or injections online in order to improve your physique, it is impossible to be sure of what is in them.

This is shown by a new Ph.D. project from the Department of Forensic Medicine at Aarhus University, which has just been published in the journal *Drug Testing and Analysis*.

Ph.D. student Pia Johansson Heinsvig has examined all of the doping drugs seized in the course of a year in three Danish police districts—a total of 764 products—and the chemical analyses reveal that the substances far from always contain what is written on the packaging.

7% of the bottles and ampoules bought, for example, contained no [active pharmaceutical ingredient](#) at all. That means that the users have actually been cheated and may be injecting themselves with cooking oil instead of steroids, Pia Johansson Heinsvig explains.

In 22% of the tablets and 27% of the oil-based products, the content of the products was not consistent with what was printed on the packaging. In some cases, it was a pharmaceutical ingredient other than the one stated, while in others, the product contained an extra active substance that the user had no chance of discovering.

"This might for example mean that you get a pain-relieving substance instead of a steroid—or another steroid than labeled," says the researcher.

Can cause depression, reduced fertility and cardiac arrest

It is for example in sub-cultures within fitness environments that Danes buy performance and image enhancing drugs (PIEDs) as a supplement to their training and diet—in order to improve their appearance and possible athletic performance.

In Denmark and most other [western countries](#), the substances cannot be bought over the counter, but are easily available online, where they can be ordered illegally. These products are either produced on a large scale in a country where the production of doping is legal, or in illegal laboratories around the world.

The new study is the first of its kind in a Danish context, and shows that many different companies are producing performance and image-enhancing drugs for the Danish market, and that counterfeit and low-quality products are widespread.

"From the packaging, we can see that the products in the study originate from 37 countries, mainly India and the US. The majority come from Asia (37%), and the most popular manufacturer is Alpha Pharma," says Pia Johansson Heinsvig.

Steroids make up almost 60% of the seized products. These drugs constitute a health problem, as long-term use of anabolic steroids can have serious consequences, including cardiovascular disease, impaired fertility, liver damage, depression and heart failure.

A professional appearance

You should not allow yourself to be fooled by the professional appearance of the products if you are tempted to buy performance-enhancing products online, says Pia Johansson Heinsvig.

"Although the products look credible, they may come from companies

with low standards of quality, or from illegal productions with no quality control at all, which could potentially constitute an additional health risk for the end-user," she says.

"Many of the products look as though they have been legitimately produced, as the packaging is professional, often with the company name and other relevant information on the package. But counterfeit medicine can contain incorrect ingredients, no active ingredients, inadequate ingredients, low-quality ingredients or an incorrect dosage," says the researcher.

More information: Pia Johansson Heinsvig et al, Do you get what you see? The illicit doping market in Denmark—An analysis of performance and image enhancing drugs seized by the police over a 1-year period, *Drug Testing and Analysis* (2023). [DOI: 10.1002/dta.3472](https://doi.org/10.1002/dta.3472)

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