

## WADA Technical Letter – TL11

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\*The approval by the WADA Executive Committee is applicable only to Technical Letters issued after November 2019.

### OXYMORPHONE

The *World Anti-Doping Agency* wishes to draw the attention of the Laboratories to the following issue that may affect Laboratory operations. This pertains, in particular, to the possible detection of the prohibited narcotic **oxymorphone** in urine *Samples* due to the decomposition of the permitted drug methylbuprenorphine (MTNX), a peripherally acting  $\mu$ -opioid antagonist that reverses some of the side effects of opioid drugs without affecting analgesia.

Oxymorphone may be formed *in situ* as a degradation artifact of MTNX after thermolysis in the Gas Chromatograph inlet or as a side reaction of the per-TMS derivatization under GC-MS analysis conditions. The procedures based on the detection of oxymorphone and its *Metabolites* by LC-MS are not affected, as MTNX degradation is not observed under electrospray conditions.

Therefore, whenever a Laboratory detects oxymorphone in urine by GC-MS, an additional test for the presence of noroxymorphone (a minor but expected *Metabolite* of oxymorphone) shall be applied to the *Sample*. Alternatively, the absence of MTNX may be documented by analyzing the *Sample* by LC-MS before issuing a Test Report<sup>1</sup>.

Should you have any further questions, please do not hesitate to contact the WADA Science Department for further information.

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<sup>1</sup> Sobolevsky T, Kucherova Y and Ahrens B. Identification of oxymorphone as decomposition product of the permitted drug methylbuprenorphine, *Drug Testing & Analysis*, **2018**, 10 (5), 892-895.