

PROJECT REVIEW

"Influences of Traditional Chinese Medicines Containing Endogenous Steroids Steroids on Doping Test"

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Traditional Chinese Medicine (TCM) has been used in China for thousands of years. Some drugs of TCM contain endogenous steroids such as musk, plenis and testes of ox, and oviductus ranae, which make it possible to abuse TCM as doping. In the 2011 FIFA Women's World Cup, adverse analytical findings about the exogenous source of etiocholanolone and other steroids were reported, and musk was regarded as the source of the steroidal preparation. Isotope ratio mass spectrum is applied in doping test to confirm the endogenous steroids abuse by determining the isotopic ratio of $^{13}\text{C}/^{12}\text{C}$, whereas the carbon isotope ratios of steroids in animal materials used in TCM were seldom reported in literature. In view of the fact that TCM materials would be abused as doping, their influences on doping test should be further studied.

In this project, musk, plenis and testes of ox, and oviductus ranae will be collected for the detection of concentrations and carbon isotope ratios of endogenous steroids by GC-MSD and GC/C/IRMS. Excretion study will also be executed to demonstrate the influences of musk intake on the doping test.

Based on those studies, the possibility of those TCMs abuse as doping will be estimated.