

CON-THE-050

CONFIRMATORY METHODS

Metabolism of Anabolic Steroids

• Context

Anabolic steroids are one of the most complex type of residues to monitor in food. This is due to two main factors, the first one being the number of compounds which fall under this definition and the second the metabolism of these molecules which presupposes the study of their biotransformation in the various species of farm animals prior to their monitoring.

• General objective(s)

This module gives the definition of what an hormone is, where they are secreted in the body, what are the main organs in charge of their biotransformation, what are the main redox reactions observed in human, equine, and bovine, how the phase I metabolites are conjugated and eliminated. Examples of illustrations are given, especially on trenbolone, nandrolone and stanozolol.

• Main items

- ✓ Production, circulation, biotransformation, elimination of endogenous steroids in mammals
- ✓ Production, circulation, biotransformation, elimination of administered steroids in mammals
- ✓ Experimental protocole, metabolite detection strategy, understanding of the rules of fragmentation, determination of the chemical structure.

• Pedagogical objectives

- ✓ Understand steroid production
- ✓ Know the main transformation reaction affecting steroid mainly in the liver
- ✓ Learn how metabolism studies are conducted in laboratories

• Pedagogical tools

- ✓ Slide show

• Duration

- ✓ 1 ½ hour

• Pre-requisite

- ✓ General biology and biochemistry
- ✓ Chemical structure (understanding)
- ✓ Mass spectrometry (CON-THE-010, CON-THE-020 and CON-THE-030)