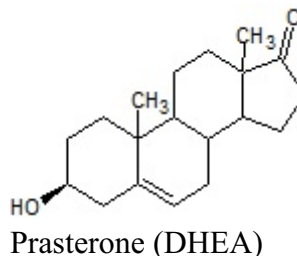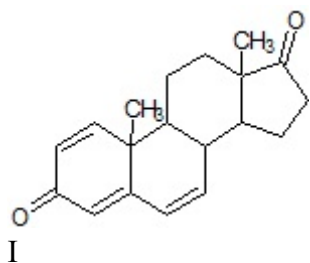# Drug Status Report

Drug: Androsta-1,4,6-triene-3,17-dione (I)

Drug Name Status: Androsta-1,4,6-triene-3,17-dione is the chemical name.

Chemical Name: Androsta-1,4,6-triene-3,17-dione

Chemical structure:

I   Prasterone (DHEA)

Molecular Formula: $C_{19}H_{22}O_2$

Pharmacological class / Application: steroid

International status:

US: The substance is not currently listed on the schedules to the US Controlled Substances Act and is not mentioned on the DEA website.

United Nations: The substance is not listed on the Yellow List - List of Narcotic Drugs under International Control nor the Green List - List of Psychotropic Substances under International Control.

Canadian Status: A status decision on this substance was recorded on 2004-12-03 under the name, 3,17-Diketo-androst-1,4,6-triene. An electronic copy (unsigned, undated) of the report is appended. That report recommended that it be considered a controlled substance because it was a derivative of testosterone acetate which itself is a derivative of testosterone (item 23(40) of Schedule IV). The recommendation was not supported by scientific reports. This status report is written to address this.
A new review of the scientific literature was conducted. This review identified a recent report by Kim and Ma[1] wherein they describe the direct one-step conversion of prasterone to androsta-1,4,6-triene-3,17-dione with DDQ (2,3-dichloro-5,6-dicyano-1,4- benzoquinone). Therefore androsta-1,4,6-triene-3,17-dione is a derivative of prasterone which is subitem 23(36)

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[1] Kim, E., & Ma, E. Steroids, 72(4), 360-367 (2007).

of Schedule IV to the CDSA and is included in item 23 of Schedule IV, "Anabolic steroids and their derivatives".

This one-step conversion of prasterone to androsta-1,4,6-triene-3,17-dione is a simpler basis on which to declare that the latter is a derivative of an anabolic steroid in comparison to a conversion beginning with testosterone acetate.

Recommendation: Androsta-1,4,6-triene-3,17-dione is included in item 23 of Schedule IV and is a controlled substance.

March 3, 2009