



STATUS DECISION OF CONTROLLED AND NON-CONTROLLED SUBSTANCE(S)

Substances: 3-beta-Hydroxyandrost-5-ene-7,17-dione (I)
3beta-Acetoxyandrost-ene-7,17-dione (II)
3beta,7alpha-Dihydroxyandrost-5-ene-17-one (III)
3beta,7beta-Dihydroxyandrost-5-ene-17-one (IV)

Based on the **current** information available to the Office of Controlled Substances, it appears that the above substances are:

Controlled	<input checked="" type="checkbox"/>
Not Controlled	<input type="checkbox"/>

under the schedules of the *Controlled Drugs and Substances Act* (CDSA) for the following reason(s):

- These substances are not currently listed specifically on the CDSA. However, prasterone (DHEA) is listed as subitem 23(36) of Schedule IV. The heading for item 23 is “Anabolic steroids and their derivatives.” The 7-oxo analogue of DHEA, I, is a metabolite¹ of DHEA. As the acetoxy version of this substance, II, can easily be derived from I, it must also be considered a derivative of the anabolic steroid prasterone.

The 7-hydroxy analogues of DHEA, III and IV are also both metabolites² of prasterone and therefore are derivatives of an anabolic steroid and are included in item 23 of Schedule IV to the CDSA.

Supporting document(s) attached: **Drug Status Report by Mr. LeBelle**

¹ a. Robinson B, Michael KK, Ripp SL, Winters SJ, and Prough RA, Arch. Biochem, Biophys. 412 (2): 251-258 (2003).

b. Marwah LH and Marwah P, Lipids, 37(12):1187-1191 (2002)

² Starka L, Hampl R, Hanus M, Matouskova, Clin. Chem. Lab. Med. 43(11):1218-1222 (2005)

Please note that this report replaces the previous decisions on 7-Oxo- DHEA and 3-Acetyl-7-oxo DHEA (see report on 7-Oxo- DHEA by Mr. M. LeBelle dated July 9, 2002 and the Verification of Controlled Substance document regarding 3-Acetyl-7-oxo DHEA by Mr. M. Kozlowski dated Jan. 16, 2003).

Prepared by: _____
Xiao Peng Feng

Date: July 4, 2006

Drug Status Report by: Mr. M. LeBelle

Date: July 4, 2006

Approved by: _____

DIRECTOR, OFFICE OF
CONTROLLED SUBSTANCES

Date: _____

Drug Status Report

Drug: 3-beta-Hydroxyandrost-5-ene-7,17-dione (I)
3beta-Acetoxyandrost-ene-7,17-dione (II)
3beta,7alpha-Dihydroxyandrost-5-ene-17-one (III)
3beta,7beta-Dihydroxyandrost-5-ene-17-one (IV)

Drug Name Status: 3-beta-Hydroxyandrost-5-ene-7,17-dione is the chemical name

Chemical Name:

3-beta-Hydroxyandrost-5-ene-7,17-dione (I)
3beta-Acetoxyandrost-5-ene-7,17-dione (II)
3beta,7alpha-dihydroxyandrost-5-ene-17-one (III)
3beta,7beta-dihydroxyandrost-5-ene-17-one (IV)

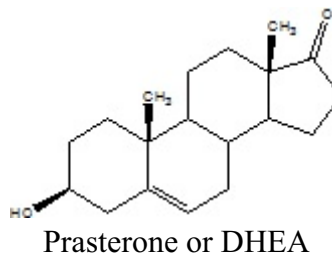
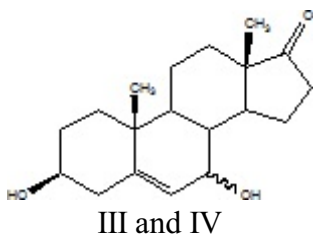
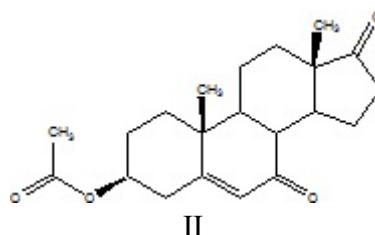
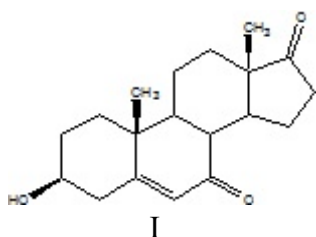
Other Names: 7-Oxo-DHEA; 7-keto-DHEA

(II) 7-oxo DHEA acetate; 7-oxodehydroepiandrosterone acetate; 7-oxoprasterone acetate

(III) 7alpha-hydroxydehydroepiandrosterone; 7alpha-hydroxypraesterone; 7alpha-hydroxy-DHEA

(IV) 7beta-hydroxydehydroepiandrosterone; 7beta-hydroxypraesterone; 7beta-hydroxy-DHEA

Chemical structure:



The difference between II and III is the orientation of the OH group at the 7 position. The two isomers (alpha and beta) are represented by a wiggly line.

Molecular Formula: I $C_{19}H_{26}O_3$

II $C_{21}H_{28}O_4$

III and IV $C_{19}H_{28}O_3$

Pharmacological class / Application: steroid metabolites

International status:

US: The three substances are not currently listed on the US Controlled Substances Act and are not mentioned on the DEA website.

United Nations: The chemicals are 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: The three substances are not currently listed specifically on the CDSA. However, prasterone (DHEA) is listed as subitem 23(36) of Schedule IV. The heading for item 23 is "Anabolic steroids and their derivatives." The 7-oxo analogue of DHEA, I, is a metabolite³ of DHEA. As the acetoxy version of this substance, II, can easily be derived from I, it must also be considered a derivative of the anabolic steroid prasterone.

The 7-hydroxy analogues of DHEA, III and IV are also both metabolites⁴ of prasterone and therefore are derivatives of an anabolic steroid and are included in item 23 of Schedule IV to the CDSA.

Recommendation: 3-beta-Hydroxyandrost-5-ene-7,17-dione (I), 3beta-acetoxyandrost-ene- 7,17-dione (II), 3beta,7alpha-dihydroxyandrost-5-ene-17-one (III), and 3beta,7beta-dihydroxyandrost-5-ene-17-one (IV) are included in Item 23 of Schedule IV to the CDSA and are controlled substances.

July 4, 2006

³ a. Robinson B, Michael KK, Ripp SL, Winters SJ, and Prough RA, Arch. Biochem, Biophys. 412 (2): 251-258 (2003).

b. Marwah LH and Marwah P, Lipids, 37(12):1187-1191 (2002)

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