



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

Substance: 5alpha-Estrane-3beta,17alpha-diol bis-beta-D-glucuronide

Based on the current information available to the Office of Controlled Substances, it appears that the above substance is:

Controlled X
Not Controlled []

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

- The drug is currently not listed specifically on the CDSA.
Nandrolone is listed as subitem 23(28) of Schedule IV to the CDSA.
As a metabolite of nandrolone, 5alpha-estrane-3beta,17alpha-diol is a derivative of an anabolic steroid and therefore included in item 23 of Schedule IV to the CDSA.
Similarly the glucuronides, being derivatives of 5alpha-estrane-3beta,17alpha-diol, are also included in item 23 of Schedule IV.

Supporting document(s) attached: X

Prepared by: TIANA BRANCH Date: 2005-07-12

Verified by: See email MICHAEL LEBELLE Date: 2005-07-07

Approved by: DIRECTOR, OFFICE OF CONTROLLED SUBSTANCES Date:

**Drug:**

5alpha-Estrane-3beta,17alpha-diol;

5alpha-estrane-3beta,17alpha-diol beta-D-glucuronide; and

5alpha-estrane-3beta,17alpha-diol bis-beta-D-glucuronide

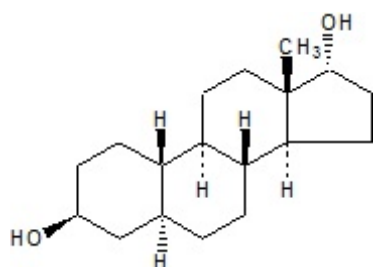
**Glucuronides** are common derivatives of substances formed during metabolism.

The structure of the glucuronides of 5alpha-estrane-3beta,17alpha-diol are shown below. Glucuronide structures will not be shown in subsequent reports.

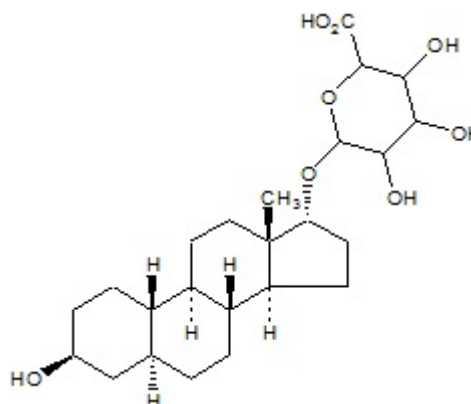
**Drug Name Status:** 5alpha-Estrane-3beta, 17alpha-diol is the chemical name

**Chemical Name:** 5alpha-Estrane-3beta,17alpha-diol

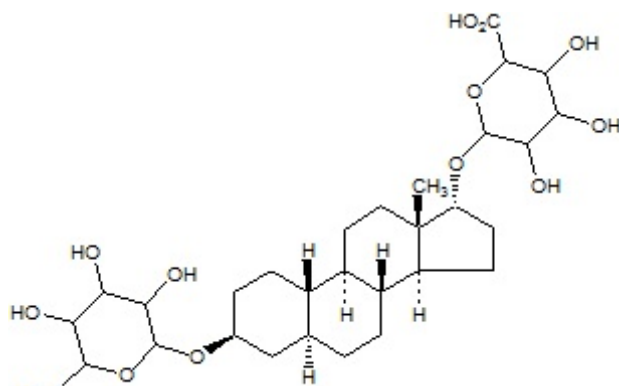
**Other Names:** estranediol; 17alpha-hydroxy-5alpha-estran-3beta-ol

**Chemical structure:**

5alpha-Estrane-3beta,  
17alpha-diol



5alpha-Estrane-3beta, 17alpha-diol  
beta-D-glucuronide



5alpha-estrane-3beta,17alpha-diol bis-beta-D-  
glucuronide

**Molecular Formula:** C<sub>18</sub>H<sub>30</sub>O<sub>2</sub> (this for 5alpha-estrane-3beta, 17alpha-diol)

**Pharmacological class / Application:** nandrolone metabolites

**International status:**

US: The drug is not currently listed on the US Controlled Substances Act and is not mentioned on the DEA website. As a metabolite of the substance may be included in the definition of "anabolic steroid" in the CSA which means any drug or hormonal substance, chemically and pharmacologically related to testosterone.

United Nations: The drug is not listed on the Yellow List - List of Narcotic Drugs under International Control. The drug is not listed on the Green List - List of Psychotropic Substances under International Control

Canadian Status: The drug is currently not listed specifically on the CDSA. Nandrolone is listed as subitem 23(28) of Schedule IV to the CDSA. As a metabolite<sup>1,2</sup> of nandrolone, 5alpha-estrane-3beta,17alpha-diol is a derivative of an anabolic steroid and therefore included in item 23 of Schedule IV to the CDSA. Similarly the glucuronides, being derivatives of 5alpha-estrane-3beta,17alpha-diol, are also included in item 23 of Schedule IV.

**Recommendation: 5alpha-Estrane-3beta,17alpha-diol and 5alpha-estrane-3beta,17alpha-diol beta-D-glucuronide and 5alpha-estrane-3beta,17alpha-diol bis-beta-D-glucuronide are included in item 23 to Schedule IV to the CDSA and are controlled substances.**

---

<sup>1</sup> Houghton E, Ginn A, Teale P, Dumasia MC, Copsey J. J Chromatogr. 1989 Sep 22;479(1):73-83

<sup>2</sup> Dumasia MC, Houghton E. Xenobiotica. 1984 Aug;14(8):647-55.