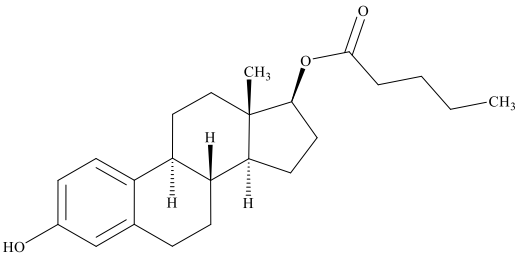


# Certificate of Analysis

Certificate No.: 20201204002

Date: December 4, 2020

Retest date: December 3, 2023

<b>Compound Name:</b>	<b>Estradiol Valerate</b>	
<b>Synonyms:</b>	(8R,9S,13S,14S,17S)-3-hydroxy-13-methyl-7,8,9,11,12,13,14,15,16,17-decahydro-6H-cyclopenta[ <i>a</i> ]phenanthren-17-yl pentanoate	
<b>TLC Catalogue Number:</b>	E-0927	
<b>CAS Number:</b>	979-32-8	
<b>Molecular Weight:</b>	356.51	
<b>Molecular Formula:</b>	C <sub>23</sub> H <sub>32</sub> O <sub>3</sub>	
<b>Source:</b>	TLC Pharmaceutical Standards	
<b>Source Lot No.:</b>	1292-098A1	
<b>Storage Conditions:</b>	Store at 2-8 °C	
<b>Solubility:</b>	Methanol	

Test Description	Specifications	Results
<b>Visual Description</b>	White to off-white solid	<b>Conforms</b>
<b>Identification</b>		
<b>IR</b>	Conforms to structure	<b>Conforms</b>
<b>MS</b>	Conforms to structure	<b>Conforms</b>
<b><sup>1</sup>H NMR</b>	Conforms to structure	<b>Conforms</b>
<b>Elemental Analysis</b>	Conforms to structure	<b>Conforms</b>
<b>Purity (HPLC)</b>	Not less than 98.0%	<b>99.6%</b>
<b>Impurity (HPLC)</b>	RT 9.36, 0.21%	
<b>Water Content (KF)</b>	N/A	<b>0.2%</b>
<b>Optical Rotation</b>	[α] <sub>D</sub> <sup>N/A</sup> (c=2.00, CHCl <sub>3</sub> ): +42.4°	[α] <sub>D</sub> <sup>25.0</sup> (c=0.47, CHCl <sub>3</sub> ): <b>+40.5°</b>
<b>Residual Solvents (NMR)</b>	No residual solvent	
<b>Assay (%)</b>	Not less than 95.0%	<b>99.4%</b>
<b>Recommendation:</b>	<b>Released.</b>	

Name	Department	Signature	Date
Reviewed and approved by:	Analytical Services		
Approved by:	Quality Assurance		

**Attachments:** HPLC, IR, MS and NMR spectra.