

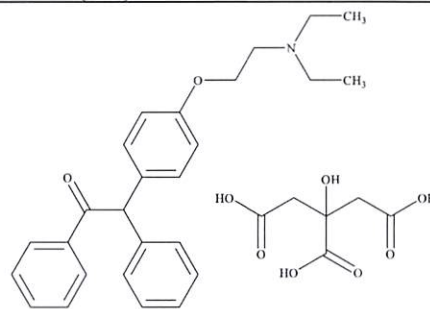
## Certificate of Analysis

Certificate No.: 20220623028



Date: June 23, 2022

Retest date: June 22, 2025

<b>Compound Name:</b> Clomiphene Impurity 3 Citrate	
<b>Synonyms:</b>	2-(4-(2-(diethylamino)ethoxy)phenyl)-1,2-diphenylethan-1-one, 2-hydroxypropane-1,2,3-tricarboxylic acid (1:1)
<b>TLC Catalogue Number:</b>	C-8212
<b>CAS Number:</b>	5530-99-4 (free base)
<b>Molecular Weight:</b>	387.52 192.12
<b>Molecular Formula:</b>	C <sub>26</sub> H <sub>29</sub> NO <sub>2</sub> . C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>
<b>Source:</b>	TLC Pharmaceutical Standards
<b>Source Lot No.:</b>	3818-018A8
<b>Storage Conditions:</b>	Store at 2-8 °C
<b>Solubility:</b>	Methanol, DMSO, Water



Test Description	Specifications	Results
<b>Visual Description</b>	White to off-white solid	<b>Conforms</b>
<b>Identification</b>		
IR	Conforms to structure	<b>Conforms</b>
MS	Conforms to structure	<b>Conforms</b>
<sup>1</sup> H NMR	Conforms to structure	<b>Conforms</b>
<b>Purity (HPLC)</b>	Not less than 95.0%	<b>98.3%</b>
<b>Impurity (HPLC)</b>	RT 4.35, 0.63%; RT 13.45, 0.46%; RT 14.11, 0.24%	
<b>Water Content (KF)</b>	N/A	<b>0.4%</b>
<b>Residual Solvents (NMR)</b>	No residual solvent	
<b>Assay (%)</b>	Not less than 90.0%	<b>97.9%</b>
<b>Recommendation:</b>	<b>Release.</b>	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		06 / 24 / 2022
Approved by:	Quality Assurance		06 / 24 / 2022

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