Product Name: Doxycycline hyclate
Catalog No.: 4090
Batch No.: 4

CAS Number: 24390-14-5
IUPAC Name: (4S,4aR,5S,5aR,6R,12aS)-4-(Dimethylamino)-3,5,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-1,4,4a,5,5a,6,11,12a-octahydrotetracene-2-carboxamide hydrochloride hemiethanolate hemihydrate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C_{22}H_{24}N_{2}O_{8}.HCl.0.5C_{2}H_{6}O.\frac{1}{4}H_{2}O
Batch Molecular Weight: 517.44
Physical Appearance: Yellow solid
Solubility: water to 100 mM
DMSO to 100 mM
Storage: Store at +4°C

2. ANALYTICAL DATA

HPLC: Shows 94.3% purity
\textsuperscript{1}H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

<table>
<thead>
<tr>
<th>Element</th>
<th>Theoretical</th>
<th>Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>53.39</td>
<td>53.45</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>5.75</td>
<td>5.84</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>5.41</td>
<td>5.3</td>
</tr>
</tbody>
</table>

Certificate of Analysis
Print Date: Dec 9th 2017

www.tocris.com

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use
**Product Name:** Doxycycline hyclate  
**Catalog No.:** 4090  
**Batch No.:** 4

**CAS Number:** 24390-14-5  
**IUPAC Name:** (4S,4aR,5S,5aR,6R,12aS)-4-(Dimethylamino)-3,5,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-1,4,4a,5,5a,6,11,12a-octahydrotetracene-2-carboxamide hydrochloride hemiethanolate hemihydrate

**Description:**
Broad-spectrum antibiotic and MMP inhibitor; tetracycline derivative. Increases and promotes smooth muscle cell adhesion; inhibits proliferation and migration. Protects the microvasculature by inhibiting plasminogen systems.

**Physical and Chemical Properties:**
- **Batch Molecular Formula:** C_{22}H_{34}N_2O_8.HCl.0.5C_2H_5OH.3/4H_2O
- **Batch Molecular Weight:** 517.44
- **Physical Appearance:** Yellow solid

**Storage:** Store at +4°C

**Solubility & Usage Info:**
- water to 100 mM
- DMSO to 100 mM

**Stability and Solubility Advice:**
Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:
- SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.
- SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**