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}{2}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
Batch Molecular Structure:

2. ANALYTICAL DATA

HPLC: Shows 92.4% purity
^{1}H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis: Carbon Hydrogen Nitrogen

Theoretical 53.39 5.75 5.41
Found 53.45 5.84 5.3
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**Description:**
Doxycycline hyclate is a broad-spectrum antibiotic and MMP inhibitor; tetracycline derivative. Doxycycline hyclate increases and promotes smooth muscle cell adhesion; inhibits proliferation and migration. Protects the microvasculature by inhibiting plasminogen systems. For more information about how Doxycycline hyclate may be used, see our protocols: Transdifferentiating Fibroblasts into Neurons, Reprogramming MEFs into Skeletal Muscle Progenitors. Please see product specific page on www.tocris.com for full description.

**Physical and Chemical Properties:**
- **Batch Molecular Formula:** C_{22}H_{24}N_2O_6HCl.0.5C_2H_5O.¾H_2O
- **Batch Molecular Weight:** 517.44
- **Physical Appearance:** Yellow solid
- **Minimum Purity:** ≥92%

**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:**