

# Certificate of Analysis

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**Product Name:** Dexamethasone

**Catalog No.:** 1126

**Batch No.:** 5

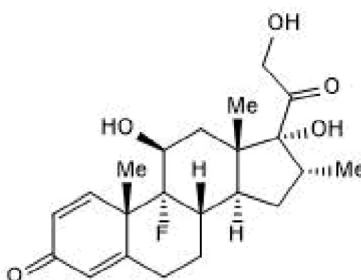
CAS Number: 50-02-2

EC Number: 200-003-9

IUPAC Name: (11 $\beta$ ,16 $\alpha$ )-9-Fluoro-11,17,21-trihydroxy-16-methyl-pregna-1,4-diene-3,20-dione

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>22</sub>H<sub>29</sub>FO<sub>5</sub>.  
**Batch Molecular Weight:** 392.47  
**Physical Appearance:** White solid  
**Solubility:** DMSO to 100 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows 99.0% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	67.33	7.45	
Found	67.22	7.51	

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

Dexamethasone is a glucocorticoid; anti-inflammatory. Reduces levels of activated NF- $\kappa$ B in immature dendritic cells (DCs) and inhibits differentiation into mature DCs. Induces differentiation of human mesenchymal stem cells (MSCs). Also used in the generation of liver organoids. Induces autophagy in acute lymphoblastic leukemia (ALL) cell lines. Acts as viral transduction enhancer by promoting intracellular shuttling of HIV-1 pre-integration complex to the nucleus. Additionally Dexamethasone pretreatment in vivo suppresses adaptive immune response to recombinant adenoviral gene transfer vectors. Dexamethasone synthesized to Ancillary M... Please see product specific page on [www.tocris.com](http://www.tocris.com) for full description.

**Physical and Chemical Properties:**

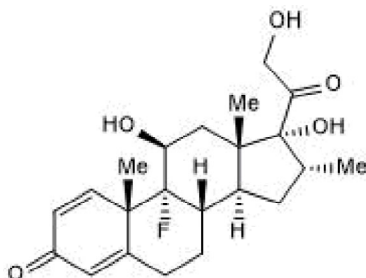
Batch Molecular Formula: C<sub>22</sub>H<sub>29</sub>FO<sub>5</sub>.

Batch Molecular Weight: 392.47

Physical Appearance: White solid

**Minimum Purity:**  $\geq$ 98%

**Batch Molecular Structure:**



**References:**

**Huch *et al*** (2015) Long-term culture of genome-stable bipotent stem cells from adult human liver. *Cell*. **160** 299. PMID: 25533785.

**Deng *et al*** (2014) The effect of dexamethasone on lentiviral vector infection is associated with importin  $\alpha$ . *Biomed.Rep.* **2** 137. PMID: 24649085.

**Sittichokechaiwut *et al*** (2010) Short bouts of mechanical loading are as effective as dexameth. at inducing matrix production by human bone marrow mesenchymal stem cell. *Eur.Cell Mater.* **20** 45. PMID: 20648425.

**Storage:** Store at RT

**Solubility & Usage Info:**

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. \*Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

**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.

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**bio-techne.com**

info@bio-techne.com  
techsupport@bio-techne.com

**North America**

Tel: (800) 343 7475

**China**

info.cn@bio-techne.com  
Tel: +86 (21) 52380373

**Europe Middle East Africa**

Tel: +44 (0)1235 529449

**Rest of World**

[www.tocris.com/distributors](http://www.tocris.com/distributors)  
Tel: +1 612 379 2956