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## DATASHEET

Dexamethasone

### Product overview

<b>Name</b>	Dexamethasone
<b>Cat No</b>	HB2521
<b>Alternative names</b>	Dex
<b>Biological action</b>	Agonist
<b>Purity</b>	>98%
<b>Description</b>	Anti-inflammatory synthetic glucocorticoid. Induces hMSC differentiation. Apoptosis inducer.

### Images



### Biological Data

<b>Biological description</b>	Synthetic glucocorticoid. Differentiates mesenchymal stem cells (MSCs) into adipogenic, chondrogenic and osteogenic lineages.  Commonly used with <a href="#">ascorbic acid</a> and $\beta$ -Gly for osteogenic differentiation of stem cells.  Also shows potent anti-inflammatory and immunosuppressant effects. Active <i>in vivo</i> .  Recently investigated as part of COVID-19 compound repurposing.  Apoptosis inducer.  <a href="#">Water soluble dexamethasone</a> also available.
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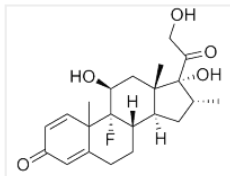
### Solubility & Handling

<b>Storage instructions</b>	-20 °C (protect from light)
<b>Solubility overview</b>	Soluble in DMSO (100mM)
<b>Important</b>	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

### Chemical Data

**Chemical name**  
**Molecular Weight**  
**Chemical structure**

(11 $\beta$ ,16 $\alpha$ )-9-Fluoro-11,17,21-trihydroxy-16-methyl-pregna-1,4-diene-3,20-dione  
392.47



**Molecular Formula**  
**CAS Number**  
**PubChem identifier**  
**SMILES**

C<sub>22</sub>H<sub>29</sub>FO<sub>5</sub>

50-02-2

5743

C[C@@H]1C[C@H]2[C@@H]3CCC4=CC(=O)C=C[C@@]4([C@]3([C@H](C[C@@]2([C@]1(C(=O)CO)O)C)O)F)C

**InChi**

InChI=1S/C22H29FO5/c1-12-8-16-15-5-4-13-9-14(25)6-7-19(13,2)21(15,23)17(26)10-20(16,3)22(12,28)18(27)11-24/h6-7,9,12,15-17,24,26,28H,4-5,8,10-11H2,1-3H3/t12-,15+,16+,17+,19+,20+,21+,22+/m1/s1

**InChiKey**

UREBDLICKHMUKA-CXSFZGCWSA-N

**MDL number**

MFCD00064136

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## References

### Dexamethasone alleviates tumor-associated brain damage and angiogenesis.

Fan Z *et al* (2014) PLoS One 9(4)

**PubMedID**

[24714627](#)

### Glucocorticoid receptor antagonism by cyproterone acetate and RU486.

Honer C *et al* (2003) Mol Pharmacol 63(5)

**PubMedID**

[12695529](#)

### Short bouts of mechanical loading are as effective as dexamethasone at inducing matrix production by human bone marrow mesenchymal stem cell.

Sittichokechaiwut A *et al* (2010) Eur Cell Mater 20

**PubMedID**

[20648425](#)

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