

Dexamethasone

Glucocorticoid pathway activator; Activates glucocorticoid receptor

Catalog #72092

500 mg

Product Description

Dexamethasone is a synthetic glucocorticoid, similar to the natural glucocorticoid hydrocortisone. Dexamethasone has an increased affinity for glucocorticoid receptors when compared to the natural hydrocortisone ligand ($K_d = 5 \text{ nM}$ vs 17 nM ; Mulatero et al.).

Alternative Names: MK 125, NSC 34521

CAS Number: 50-02-2

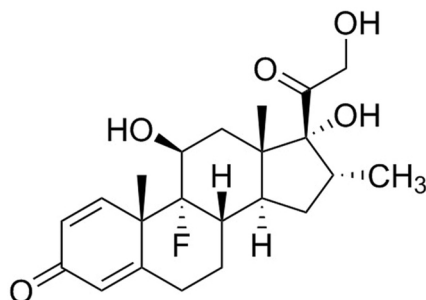
Chemical Formula: $\text{C}_{22}\text{H}_{29}\text{FO}_5$

Molecular Weight: 392.5 g/mol

Purity: $\geq 98\%$

Chemical Name: 9-fluoro-11b, 17a, 21-trihydroxy-16-methyl-pregna-1, 4-diene-3, 20-dione

Structure:



Properties

Product Format:	A crystalline solid
Stability and Storage:	Product stable at -20°C as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.
Preparation:	<p>Solubility:</p> <ul style="list-style-type: none">• DMSO \leq 75 mM• Absolute ethanol \leq 7.5 mM <p>For example, to prepare a 10 mM stock solution in DMSO, resuspend 10 mg in 2.55 mL of fresh DMSO.</p> <p>Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported; however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.</p> <p>Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO or absolute ethanol concentration above 0.1% due to potential cell toxicity.</p>

Published Applications

REPROGRAMMING

- Promotes transdifferentiation of hepatocytes from mouse pancreatic cells (Shen et al.).

DIFFERENTIATION

- Promotes osteogenic, adipogenic, and chondrogenic differentiation of human mesenchymal cells (Jaiswal et al.; Mackay et al.; Pittenger et al.).
- Promotes osteogenic, adipogenic, and chondrogenic differentiation of mouse mesenchymal cells (Tropel et al.).
- Promotes differentiation of mature hepatocytes from mouse and human embryonic stem (ES) cells (Cai et al.; Kubo et al.).
- Promotes maturation of fetal mouse hepatocytes (Kamiya et al.).

References

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- Kamiya A et al. (1999) Fetal liver development requires a paracrine action of oncostatin M through the gp130 signal transducer. *EMBO J* 18(8): 2127–36.
- Kubo A et al. (2004) Development of definitive endoderm from embryonic stem cells in culture. *Development* 131(7): 1651–62.
- Mackay AM et al. (1998) Chondrogenic differentiation of cultured human mesenchymal stem cells from marrow. *Tissue Eng* 4(4): 415–28.
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- Pittenger MF et al. (1999) Multilineage potential of adult human mesenchymal stem cells. *Science* 284(5411): 143–7.
- Shen CN et al. (2000) Molecular basis of transdifferentiation of pancreas to liver. *Nat Cell Biol* 2(12): 879–87.
- Tropel P et al. (2004) Isolation and characterisation of mesenchymal stem cells from adult mouse bone marrow. *Exp Cell Res* 295(2): 395–406.

Related Products

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Warning

This product is hazardous. Please refer to the Safety Data Sheet (SDS).

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