

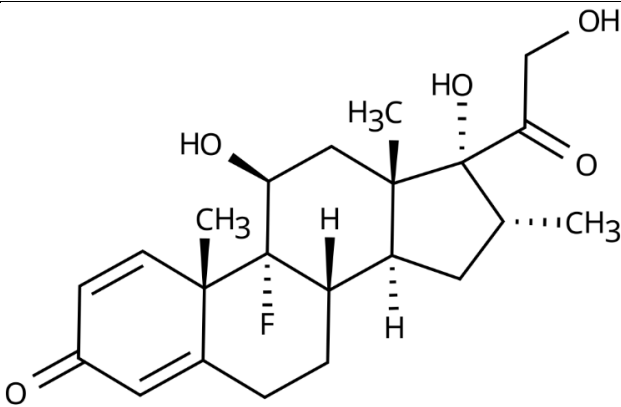


TrailBio® Dexamethasone User Instructions

Product Configurations

Catalog Number	Size	Quantity
TB52486	500 mg	1 vial

Product Description

Category	Specification
Product	Dexamethasone
Synonyms	Decadron, Cortisumman, Prednisolone F, Hexadecadrol, Dexacortal
CAS Number	50-02-2
MDL Number	MFCD00064136
Formula	C ₂₂ H ₂₉ FO ₅
Molecular Weight	392.46 g/mol
Storage (Solid)	4 °C for up to 2 years, protect from light
Storage (Solution)	-80 °C for up to 1 year or -20 °C for up to 6 months, protect from light
Shipping	Ambient temperature
Chemical Structure	

Quality & Analytical Specifications

Test Parameter	Specification
Solid Appearance (Color)	White to off-white
Purity	≥98%

Solubility

Solvent	Solubility	Notes
Ethanol	8.33 mg/mL (21.23 mM)	May require sonication
DMSO	100 mg/ml (254.80 mM)	May require sonication

Solution Preparation Guide

Amount	1 mM	5 mM	10 mM
1 mg	2.548 ml	0.510 ml	0.255 ml
5 mg	12.740 ml	2.548 ml	1.274 ml
10 mg	25.480 ml	5.096 ml	2.548 ml

Biological Description

Dexamethasone is a synthetic fluorinated glucocorticoid. It binds to and activates the intracellular glucocorticoid receptor, which regulates the transcription of glucocorticoid-responsive genes. This shifts gene expression toward anti-inflammatory and immunoregulatory responses, making dexamethasone useful for studying glucocorticoid signaling, inflammatory regulation, cellular metabolism, and differentiation.

Associated Pathways and Applications

Category	Description
Associated Pathways	Glucocorticoid receptor signaling; nuclear receptor transcription; NF-κB/AP-1 regulation; autophagy and mitophagy
Applications	Glucocorticoid-response studies; inflammatory and immune models; metabolic regulation; organoid culture

Notes

- When using DMSO-based stock solutions, maintain a final DMSO concentration of <0.5% in cell culture applications to minimize potential cellular toxicity, unless a higher concentration has been validated for the specific cell type.
- Avoid repeated freeze-thaw cycles. Prepare single-use aliquots when possible.
- Compound may collect on the vial cap or neck during shipping; centrifuge briefly before opening to bring contents to the bottom.
- Certificate of Analysis (CoA) available upon request. Please contact support@trailbio.com.

Also available from Trailhead Biosystems®

Cells

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- TrailBio® Hematopoietic Progenitor Cells (Cat No. ME060001020)
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