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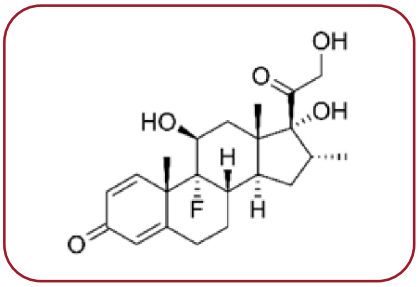

PRODUCT DATA SHEET

Dexamethasone powered by Lipodisq™ Sterile Solution

Nano-formulated aqueous solution: Ready-to-use

Cat. No.: IAX-700-107 **Lot. No.:**

Synonyms	(11β,16α)-9-Fluoro-11,17,21-trihydroxy-16-methylpregna-1,4-diene-3,20-dione in a detergent-free nano-formulation made of styrene-maleic acid lipid particles (SMALP)
Empirical Formula	$C_{22}H_{29}FO_5$
Concentration	1mg/ml (0.1% w/vol)
Size	1ml
MW	392.5
CAS	50-02-2
Purity	≥ 95% (HPLC)
Solution pH	7.00 - 7.50
Solubility	Soluble in water, PBS, Tris and other physiological solutions as formulated in a proprietary, thermostable, aqueous lipid nanoparticulate formulation (Lipodisq™, Malvern Cosmeceutics Ltd., Malvern UK). Avoid the use of buffers with divalent ions such as Ca or Mg or pH <6.5 or >8.0, which can cause particle instability. Unformulated dexamethasone is soluble in DMSO, ethanol or methanol.
Formulation	Lipodisq™ are nanosized lipid-based discoidal particles that can be manufactured to incorporate hydrophobic, poorly water-soluble compounds, such as lipids, lipoproteins and glycolipids.
Appearance	Colourless clear aqueous solution
Handling	Keep sterile. Avoid skin and eye contact.
Activity	Cell culture tested (human macrophage cell line) (MTT). Recommended starting dilution: 1:200 or higher. Optimal working concentrations depend on the applications and need to be determined. Published procedures using Lipodisq™ formulations (Curcumin and IAXO TLR4 antagonists) *in vivo* rodent models at 3-10mg/kg. Recommended route of administration is subcutaneous (s.c.) with oral or nasal application as a possible alternative, which needs to be optimised. Carrier only control: Lipodisq™ Control Sterile Solution (Cat. No.: IAX-700-100).
Shipping	Ambient
Storage	2-8°C
Stability	12 months after receipt (unopened and as supplied)
MSDS	Available on request

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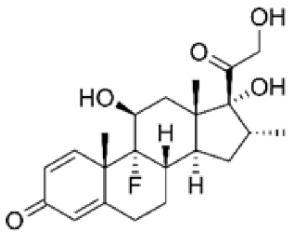

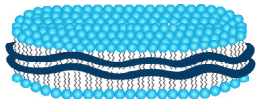

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General Information

- Dexamethasone, developed in 1957 and granted FDA approval in 1958, is a corticosteroid structurally similar to hydrocortisone and prednisolone.
- Dexamethasone is used to treat conditions including: endocrine, rheumatic, collagen, dermatologic, allergic, ophthalmic, gastrointestinal, respiratory, hematologic, neoplastic, and edematous and most recently COVID-19.

Dexamethasone References

[1] *Dexamethasone modulates immature neutrophils and interferon programming in severe COVID-19.* Sinha S, et al, Nat. Med. (2022); 28:201

[2] *Metabolic imbalance of T cells in COVID-19 is hallmarked by basigin and mitigated by dexamethasone* Siska JP, et al. J. Clin. Invest. (2021); 131:e148225

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[4] *Beyond Vaccines: Clinical Status of Prospective COVID-19 Therapeutics* Kumar S, et al. Front. Immunol. (2021); 12:752227

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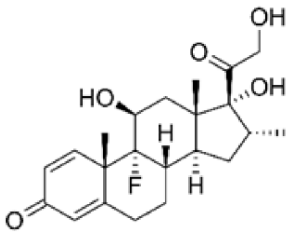

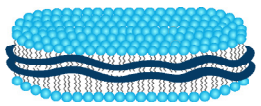

Dexamethasone powered by Lipodisq™ Sterile Solution

Nano-formulated aqueous solution: Ready-to-use

Cat. No.: IAX-700-107 **Lot. No.:**

Lipodisq™ Technology

- A nanoparticle (11-40nm) drug delivery system comprising a discoidal phospholipid bilayer membrane stabilised by a chaperone molecule annulus.
- Internal properties of the phospholipid membrane support the disposition and stabilisation of drug molecule candidates and preserve the native conformation of membrane molecules.
- The resulting encapsulated actives are rendered water-soluble and specialised for intra-cellular penetration/delivery via endosomal uptake mechanisms.
- Lipodisq™ solutions show a good safety profile and are suitable for *in vitro* and *in vivo* investigations.
- For a customizable biodegradable Lipodisq™ version with a higher concentration of actives or an alternative lipid option, contact Innaxon.

Component	Concentration	CAS #	EC #
Water (sterile)	QS	7732-18-5	231-791-2
Poly(styrene maleic acid)	25mg/ml	26762-29-8	607-996-1
Lecithin	9mg/ml	92128-87-5	295-786-7
Dexamethasone	1mg/ml	50-02-2	200-003-9

Lipodisq™ References

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[2] *Applications of Synthetic Polymer Discoidal Lipid Nanoparticles to Biomedical Research.* Tanaka M. Chem. Pharm. Bull. (2022); 70:507

[3] *Understanding the Structural Pathways for Lipid Nanodisc Formation: How Styrene Maleic Acid Copolymers Induce Membrane Fracture and Disc Formation.* Bjørnestad VA, et al. Langmuir (2021); 37:6178

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[5] *Effects of charged lipids on the physicochemical and biological properties of lipid–styrene maleic acid copolymer discoidal particles.* Tanakaa M, et al. Biochim. Biophys. Acta. Biomembr. (2020); 1862:183209

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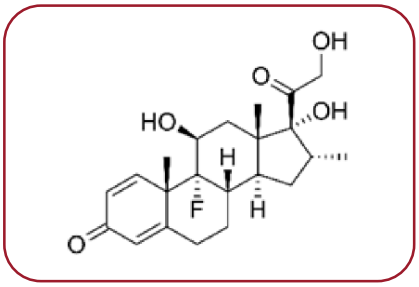

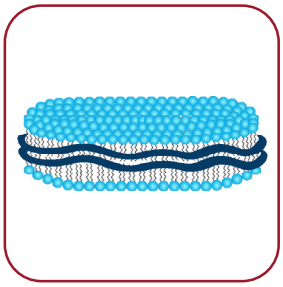

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Lipodisq™ References

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