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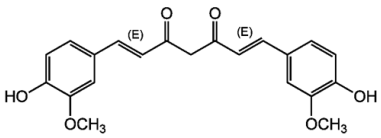

PRODUCT DATA SHEET

Curcumin (high purity) powered by Lipodisq™ Sterile Solution

Nano-formulated aqueous solution: Ready-to-use

Cat. No.: IAX-700-101 **Lot. No.:**

Synonyms	1,7-bis(4-hydroxy-3-methoxyphenyl)hepta-1,6-diene-3,5-dione, diferuloylmethane, nano-Curcumin in a detergent-free nano-formulation made of styrene-maleic acid lipid particles (SMALP)
Empirical Formula	$C_{21}H_{20}O_6$
Concentration	0.1% (w/vol) Curcumin in Lipodisq™ corresponds to 271.7uM solution
Size	1ml
MW	368.4
CAS	458-37-7
Purity	≥95% (HPLC). Free of demethoxy- and bis-demethoxycurcumin. Curcumin in Lipodisq™ does not contain any bioactive impurities (usually present in up to 40% in natural formulations of curcumin).
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 curcumin is soluble in methanol, ethanol, ethyl acetate, acetone, methylene chloride, dimethylformamide or methyl-ethyl ketone and is insoluble in aqueous solutions.
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	Orange clear aqueous solution
Handling	Keep sterile. Protect from light. 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	For at least 12 months after receipt (unopened and as supplied)
MSDS	Available on request

Document No.: IAX-700-101 | **Version:** 1.3 | **Issue Date:** 16/09/2022

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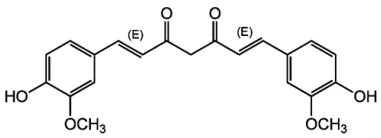

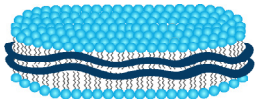

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General Information

- Curcumin is a yellow pigment present in the spice turmeric (Curcuma longa) that has been associated with anti-oxidant, anti-inflammatory, anti-cancer, anti-viral, and anti-bacterial activities. However, curcumin shows poor absorption, biodistribution, metabolism, and bioavailability.
- To increase the bioavailability, enhance circulation, improve permeability and resistance to metabolic processing several formulations of curcumin have been prepared which include nanoparticles, liposomes, micelles, and phospholipid complexes.

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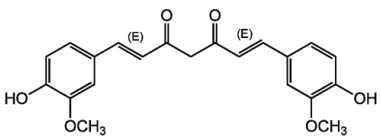

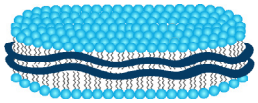

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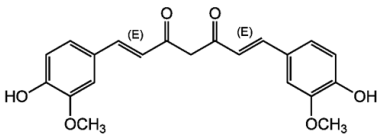

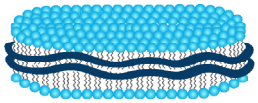

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Lipodisq™ Technology

- 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
Curcumin	1mg/ml	458-37-7	207-280-5

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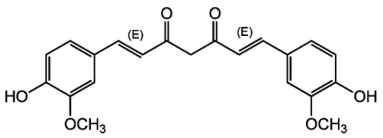

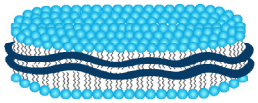

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