MKPPL™

MURLI KRISHNA
PHARMA PVT. LTD.

Murli Krishna Pharma Pvt. Ltd

www.murlikrishnapharma.com

MKPPL
MURLI KRISHNA
PHARMA PVT. LTD.

About Us

Murli Krishna Pharma Private Ltd. is a young and dynamic drug delivery systems (DDS) company in India that provides a range of effective solutions to optimize the delivery of pharmaceutical products.

Murli Krishna Pharma Private Ltd. was established by Ms. Satya Vadlamani & Dr. Vijay K. Shastri in early 2004. Driven by the vision to provide the best possible, range of international quality products at competitive prices through integration, research, innovation, technology & development.

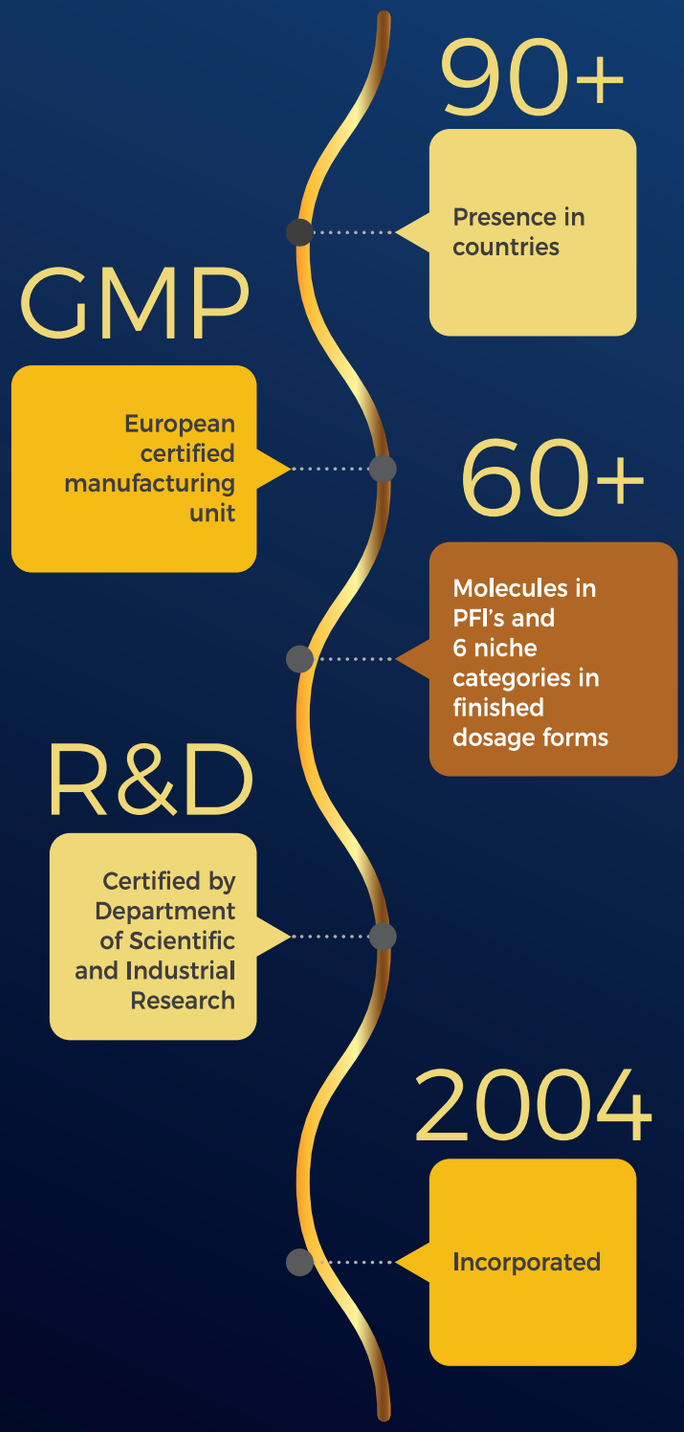
MKPPL plant is approved for manufacturing by European Union & for GMP Compliance by the WHO; Murli Krishna Pharma is equipped to undertake formulation development projects on oral NDDS. And the R&D facility is recently approved by DSIRT.

MKPPL have a world class oral solid dosage form manufacturing facility for Pellets, Micro-Pellets and Granules approved by regulatory authorities of developed countries.

Company want to carve out a niche in the field of Novel Drug Delivery System(NDDS) & would like to be known as one of the Leading Global Research Based, Drug Delivery Companies, with an expertise in novel drug delivery systems, constantly strive towards building and strengthening upon our intellectual property.

Current activities include manufacturing of pre-finished formulations i.e. pellets using Aqueous Based technology and avoiding use of Solvents completely. We have 3 potential IPRs. We develop platform technology implement the same.

GROWTH PATH



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PRODUCT PORTFOLIO (EUGMP Facility)

(Enteric Coated /Delayed /Dual Delayed Released, Immediate/Modified/Sustained Released)
Pellets, Micro-pellets, MUPS, Granules & Nano particle Suspension

SR. NO.	Therapeutic Category / Products	FORM OF PFIs	DOCUMENTATION AVAILABILITY
	Anti-Asthamatic		
1	Budesonide SR Pellet 0.88%	Pellets (for Capsule)	DMF in CTD Format
	Direct Thrombin Inhibitor's (DTIs)		
2	Dabigatran Pellets 35%, 40%	Pellets (for capsules)	DMF under compilation
	Anti-Hypertensives		
3	Nicardipine Pellets 22%	Pellets (for capsules)	DMF under compilation
	Digestant		
4	Pancreatin EC Pellets 70% (Bovine & Porcine)	Pellets/Micro pellets (for capsules)	DMF in CTD Format
	Alpha-Blockers		
5	Tamsulosin HCL SR Pellets (USP43) 0.125%, 0.13%, 0.16%, 0.20%	Pellets/Micro pellets (for capsules)	DMF in CTD format
	Anti-Fungal		
6	Itraconazole IR Pellets 22%, 44% (BP20 & USP43)	Pellets/Micro pellets (for capsules)	DMF in CTD format
	Antiemetic		
7	Aprepitant Pellets 40% (USP43) (Note: offer patent Non-infringing product)	Pellets/Micro pellets (for capsules)	DMF in CTD format
	Anti-Depressant		
8	Duloxetine HCL EC Pellets 17%, 20% (USP43)	Pellets/Micro pellets (for capsules)	DMF in CTD format
9	Venlafaxine SR Pellets 32%, 33% (USP43)	Pellets/Micro pellets (for capsules)	DMF in CTD format
	Anti-Inflammatory		
10	Mesalamine SR Pellets/granules (USP43) 60%,70% & 90% 96.38%	Pellets/Micro pellets (for capsules) Granules (for Tablets)	DMF in CTD format
11	Mebeverine Hcl SR pellets (USP43) 76%, 80%	Pellets/Micro pellets (for capsules)	DMF in CTD format
12	Diclofenac Sodium SR Pellets 30%, 31.25%	Pellets (for capsules)	DMF in CTD format
	Immunosuppressant		
13	Tacrolimus IR Pellets (USP43) 0.5%, 1%, 5%	Pellets/Micro pellets (for capsules)	DMF in CTD format
14	Sirolimus Granules (USP43) 0.3%, 0.6%, 1.2%	Granules (for Tablets)	DMF in CTD format
15	Everolimus Granules (USP43) 2.68% & 5%	Granules (for Tablets)	DMF in CTD format
	Anticoagulants		
16	Dipyridamole ER Pellets 42.5%	Pellets/Micro pellets (for capsules)	DMF under compilation
	Anti-Ulcerant (PPIs)		
17	Lansoprazole EC Pellets/ MUPS 8.5%, 12.5%	Pellets/Micro pellets (for capsules) MUPS (for Tablets)	DMF in CTD format
18	Dexlansoprazole DDR Pellets 17%, 20%, 22.5%, 23%	Pellets/Micro pellets (for capsules)	DMF in CTD format
19	Esomeprazole EC Pellets/ MUPS / Granules (USP43) 8.5%, 22.5% (Magnesium Trihydrate and Base)	Pellets/Micro pellets (for capsules) MUPS (for Tablets), Granules (Suspension)	DMF in CTD format
20	Pantoprazole EC Pellets 15% (USP43)	Pellets (for capsules)	DMF in CTD format
21	Omeprazole EC Pellets (USP43) 8.5%, 12.5%, 20%, 22%, 30%	Pellets/Micro pellets (for capsules)	DMF in CTD format
	Anti-Obesity		
22	Orlistat Pellets (In-house & USP 43) 50%, (Note: Offer patent Non-infringing product)	Pellets/Extrudes (for capsules)	DMF in CTD format
	Macrolide Antibiotic		
23	Clarithromycin Taste masked Granules (USP43) 27.5%, 30%, 33%, 42% & 43.75%	Granules (for suspension)	DMF in CTD format

NOTE: Products protected by ongoing Patents are not offered for commercial supplies.

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Oral Solid Dosage Formulations

Sr. No	PRODUCT	ANDA/EU Dossier Under Compilation
	Capsule	
1	Dabigatran Etexilate Capsule 110mg, 150mg	ANDA
2	Dexlansoprazole DR Capsules 30mg, 60mg	ANDA
3	Diclofenac Sodium SR Capsule 50mg, 100mg	ANDA
4	Duloxetine HCL DR Capsules 20mg, 30mg, 60mg	ANDA
6	Itraconazole Capsule 100mg, 200mg	ANDA
7	Lansoprazole DR Capsule 15mg, 30mg	ANDA
8	Mebeverine HCL SR Capsule 135mg, 200mg	ANDA
9	Nicardipine HCL Capsules 20mg, 30mg, 45mg, 60mg	ANDA
10	Omeprazole Gastro-resistant Capsule 20mg, 40mg	ANDA
11	Orlistat capsules 60mg, 120mg	ANDA
12	Pancreatin Capsule 10000 IU, 25000 IU	ANDA
13	Pantoprazole Gastro-resistant Capsule 20mg, 40mg	ANDA
14	Tacrolimus PR Capsule 0.5mg, 1mg, 5mg	ANDA
15	Tamsulosin HCL Capsules 0.4mg, 0.8mg	ANDA
16	Venlafaxine XR Capsules 37.5mg, 75mg, 150mg	ANDA
17	Vincamine Capsule 30mg	ANDA
18	Budesonide Capsules 3mg, 6mg, 9mg	ANDA
	Tablet	
1	Azithromycin Tablet 250mg, 500mg	ANDA
2	Clarithromycin Tablet 250mg, 500mg	ANDA
3	Diclofenac Sodium SR Tablet 50 mg, 100 mg	ANDA
4	Esomeprazole Tablet 20mg, 40mg,	ANDA
5	Lansoprazole OD Tablet 15mg, 30mg	ANDA
6	Mebeverine HCL Tablet 135mg, 200mg	ANDA
7	Memantine Tablets 5mg, 10mg	ANDA
8	Metformin SR Tablets 500mg, 1000mg	ANDA
9	Quetiapine Fumarate SR Tablet 25mg, 50mg, 100mg, 200mg	ANDA
10	Sirolimus Tablet 0.5mg, 1mg, 5mg	ANDA
11	Mebeverine HCL Tablet 75mg, 135mg, 200mg	ANDA
12	Everolimus Tablets 0.5mg, 0.75mg, 5mg 10mg	ANDA
	Suspension Products	
1	Azithromycin 250mg, 500mg	ANDA
2	Clarithromycin 250mg, 500mg	ANDA

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General Injectables

Antifungal
- Itraconazole injection *10mg/ml*
- Fluconazole injection *200mg/100ml*

Iron Supplement
- Ferric Carboxymaltose Injection *50mg/ml ,500mg/10ml*

Iron Replacement
- Iron Sucrose Injection *USP 20mg/ml*
- Iron Dextran Injection *USP 50mg, 100mg/ml*

Multivitamin
- Nicotinamide 200mg + Folic Acid 15mg + Vitamin B12 injection *500mcg 10ml*

Proton Pump Inhibitor
- Pantoprazole for injection *40mg/vial*
- Esomeprazole sodium for injection *40mg/vial*
- Omeprazole sodium for injection *40mg/vial*
- Lansoprazole sodium for injection *30mg/vial*

Vitamin B12
- Methylcobalamin 500mcg, 1500 Injection *1ml, 2ml*

Vitamin D analogs
- Vitamin D3 Injection *(600000IU) 1 ml*

Vitamin B1
- Thiamine Injection *100mg/ml*

Vitamin K
- Phytonadione Injection *10mg/ml*

Antioxidant
- Ascorbic Acid Injection *100mg/ml, 250mg/ml, 500mg/ml*

Anti Oxidant
- Ascorbic Acid Inj. *100mg/ml, 250mg/ml, 500mg/ml*

NSAIDs
- Diclofenac sodium injection *75mg/ml*
- Ketorolac Tromethamine Injection *15mg/ml*

Antiemetic
- Ondansetron Injection *40mg/20ml*
- Promethazine Hydrochloride Injection *25mg*

Diuretics
- Furosemide injection *40mg/4ml*

Sympathomimetic Drug
- Noradrenaline Injection *1mg*

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Oncology Injectables

Paclitaxel Injection
IP/USP 30mg/5ml, 100mg/17ml, 260mg/43.4ml, 300mg/50ml

Bendamustine Hydrochloride Injection
100mg/vial

carboplatin Injection
IP/BP 150mg/15 ml, 450mg/45ml

Dacarbazine Injection
USP 200mg/vial, 500mg/vial

Fluorouracil Injection
1000mg/20ml, 5000mg/100ml, 500mg/10ml, 250mg/5ml

Oxaliplatin Injection
50mg/10ml

Pegaspargase Injection
3750 IU/5ml

Pemetrexed Injection
IP/USP 100mg/vial, 500mg/vial

Paclitaxel (Protein bound particle) for injectable suspension
100mg/vial

Bortezomib Injection
IP 2mg/vial, 3.5 mg/vial

Cytarabine Injection
BP 100 mg/ml 500 mg/5 ml

Epirubicin Injection
10mg/vial, 50mg/vial, 100mg/vial

Gemcitabine for Injection
IP/USP 200mg/vial, 1gm/vial, 1.4gm/vial

Methotrexate Injection
IP/USP 500mg/20ml, 50mg/2ml

Under Development

Doxorubicin Hydrochloride Injection
10mg/5ml, 50mg/25ml

Docetaxel Injection
IP/USP 20mg/0.5ml, 80mg/2ml

Eribulin Mesylate Solution for Injection
0.5mg, 0.88mg/2ml

Irinotecan Hydrochloride Injection
IP/USP 40mg/2ml, 100mg/5ml, 300mg/5ml

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Paclionc™

Revolutionizing Cancer Care with Nab Paclitaxel Treatment:

- Nab Paclitaxel is a ground-breaking chemotherapy medication.
- It is uniquely formulated as an albumin-bound nanoparticle, which enhances both its efficacy and safety.
- Nab Paclitaxel is utilized in the treatment of breast cancer, pancreatic cancer, and non-small cell lung cancer.
- Administration is typically via intravenous infusion.

Cancer Fundamentals:

- Cancer is a complex condition characterized by the uncontrolled growth and division of cells in the body.
- It can manifest in various forms and affect different organs, often arising from genetic mutations or exposure to carcinogens.

The Significance of Encapsulation:

- Encapsulation of paclitaxel is crucial for precise targeting while minimizing side effects.
- Conventional systemic administration affects healthy cells throughout the body.
- Encapsulation guarantees that the drug efficiently reaches the tumor site.

Advantages of Nab Paclitaxel:

- **Enhanced Solubility:** The nanoparticle form of Nab Paclitaxel improves its solubility in water, facilitating easier administration.
- **Targeted Delivery:** Nano-sized particles exhibit a preference for accumulating at tumor sites, boosting the drug's effectiveness.
- **Reduced Side Effects:** Nab Paclitaxel nanoparticles evade recognition by healthy tissues, thereby minimizing adverse effects.
- **Higher Dosing:** This enables the use of higher maximum tolerated MTD.
- **Improved Pharmacokinetics:** Longer half-life and superior tumor accumulation.

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Paclitaxel (Protein-bound Particles) for Injectable Suspension

Murli Krishna Pharma - Pioneering Nano in Nano Paclionc

As pioneers in the field of Nano in Nano Paclionc, Murli Krishna Pharma (MKPPL) proudly presents a ground-breaking formulation enclosed within nano-sized particles. This innovative technique, protected by our MKPPL patent, is set to revolutionize cancer treatment.

Our commitment to precision begins with our proprietary matrix, carefully crafted using an aqueous system. This matrix is meticulously tailored to target specific tumor characteristics, making it ideally suited for breast cancer, intestinal cancer, and pancreatic cancer. The hallmark of our matrix is its remarkable size precision.

Matrix Development Highlights:

- Our journey to perfection culminated in the finalization of matrix development, verified across five batches, each containing 5 gms of Paclitaxel.
- We achieved an impressive encapsulation efficiency rate of 65%-70%, demonstrating our dedication to quality.

Ensuring Consistency:

- Verification studies have confirmed exceptional repeatability in nanoparticle formation and output, consistently achieving 93% to 94%.

In Vitro Efficacy Assessment:

- In-depth evaluation using the MTT assay on Breast Tumor cell lines yielded remarkable results.
- Our matrix exhibits outstanding tumor cell inhibition activity at a concentration of 2 mg/ml, closely paralleling ABRAXANE (albumin-encapsulated Paclitaxel nanoparticles) at 6 mg/ml.

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Transdermal Liposomal Lotion

Product containing API of
Ferrous Bisglycinate (Elemental Iron),
Vitamin B12, Vitamin D3, Folic acid

1. STUDY SYNOPSIS

Deficiency of micronutrients in infancy can lead to failure of full growth potential. Deficiency of iron and vitamin D is prevalent in India and supplements have been recommended. While oral fortification or supplementation of micronutrients is limited by issues of taste, poor absorption and gastrointestinal disturbances, transdermal delivery using innovative nanotechnology allows easy delivery of micronutrients through skin. MKPPL have developed safe nanoparticles that encapsulate micronutrients and interact with the outermost layer of skin to enhance penetration and can be delivered through a lotion platform. This technology is relatively inexpensive and has a potential for scaling up. This innovative intervention can address the problem of micronutrient deficiency in infants and improve physical and neurodevelopment.

2. BACKGROUND

2.1.Prevalence of iron and vitamin D deficiency in India

Nutritional anemia due to iron deficiency, is one of the most common deficiencies in Indian infants. Timely correction of iron deficiency is important as it adversely affects cognitive performance, behaviour and physical growth of infants, preschool and school-age children and also the immune status and morbidity from infections of all age groups. The prevalence of anemia in children aged 6- 35 months was estimated to be as high as 78.9% in NFHS-3. Subclinical vitamin D deficiency is prevalent in 40-80% Indian infants and toddlers as documented in various studies. Timely supplementation of these micronutrients can prevent their deficiencies in future.

2.2.Role of micronutrients in brain growth

Iron deficiency is associated with poor neurodevelopment and iron supplementation has been associated with improved outcomes. Animal studies have shown that maternal deficiency of vitamin D is associated with profound alteration in infant brain. Folate and Vitamin B12 are also crucial for neurological development, thus regular supplementation of these micronutrients in infants can potentially improve their nutritional status and have significant impact on neurocognitive development.

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Transdermal Liposomal Lotion

Product containing API of
Ferrous Bisglycinate (Elemental Iron),
Vitamin B12, Vitamin D3, Folic acid

2.3.Transdermal delivery of nanoparticles using Liposomal lotion

The skin represents a large surface area which is easily accessible and can potentially serve as a very attractive non-invasive route of delivery of drugs. The stratum corneum layer of skin has a "brick and mortar" structure which acts as a defensive wall that needs to be overcome in order to achieve efficient transdermal drug delivery. Nanoparticles can penetrate through the stratum corneum for deeper penetration into the dermis thereby reaching rich capillary network beneath and systemic circulation. Oral delivery of Iron is always a very tedious task as only 15% of the iron is absorbed into the system and there has been signs of gastrointestinal irritation. The iron needs to be available in the Ferrous form in order to be bioavailable in the system.

Why Liposomes?

- A liposome is a spherical vesicle having at least one lipid bilayer. Therefore, it will be helpful to penetrate through the skin brick and mortar model.
- Liposomes are non-toxic, flexible, biocompatible, completely biodegradable, and non- immunogenic for systemic and non-systemic administrations.
- Liposomes can entrap both hydrophobic and hydrophilic molecules, prevent the entrapped combinations from decomposing, and release the entrapped at specific targets.

Benefits of Transdermal Liposomal Lotion:

- Easy for application
- Skin friendly, Non-irritant
- Bypass first pass effect
- Liposomal based formulation possesses advantage over conventional lotion since it has small particle size which can easily penetrate the uppermost layer of the skin.
- Convenient for unconscious patients or patients who have difficulty in oral administration.

Importance of Liposomal lotion formulation?

- Liposomes protect some drugs against chemical and immunological breakdown, as well as protecting them against the effect of enzymes.
- Liposomal formulation is a commercially possible approach to solving the poor solubility as well as poor bioavailability problems of the nutrients.
- This formulation allows such nutrients like iron, vitamin (B12, D3, Folate) which having low absorption ability and susceptible to first pass hepatic metabolism.

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Brinzolamide Eye Drop

(Brinzolamide Ophthalmic Suspension 1% w/v)

PROBLEMS FACED IN FORMULATING OPHTHALMIC DELIVERY SYSTEMS

The cell structures act as semi permeable paracellular passive diffusion barriers or gates to large and hydrophilic solutes.

Small, lipophilic essential nutrients and toxic metabolites are delivered or removed, respectively, through passive or active site-specific transcellular carrier–mediated influx or efflux transporters.

Several retinal disorders are accompanied by dysfunction or breakdown of this blood-retinal barrier (BRB) and their associated cell-cell signaling mechanisms.

The static morphologic structure responsible for all these organ-specific barriers is the tight junction (TJ).

Counter intuitively, curative drug therapy to these protected sites requires that drugs circumvent these naturally protective barriers.

"Approach towards Developing Nanoparticles for Ophthalmic Products"

Ophthalmic preparations have an inherent problem of poor bioavailability. The reason is that most ophthalmic preparations are based on an aqueous matrix. Use of an aqueous vehicle with particle has an issue with respect to permeation, as the key absorption site is the cornea, which is hydrophobic while the conjunctiva is hydrophilic. The absorption through the conjunctiva is impaired due to a protective layer known as Ora Serrata.

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Brinzolamide Eye Drop

(Brinzolamide Ophthalmic Suspension 1% w/v)

The Nano Suspension developed by Murli Krishna Pharma ensures the following:

- MKPPL developed a Nano particle based matrix, which can deliver hydrophilic as well as hydrophobic drugs using a combination of hydrophilic and hydrophobic excipients as a clear solution. This cogent use of excipients ensures that the drug is absorbed optimally and the Nano particles ensure that the drug penetrates not only through the hydrophobic and hydrophilic channels but also through the OraSerrata, which protects the eye from any foreign body entering the optical cavity.
- MKPPL's formulation has particle size ranging between 1-2 µm.
- Due to highly reduced particle size there is better penetration of the drug into the cornea.
- MKPPL's formulation would lead to reduced ocular irritation and blurriness due to reduced particle size.
- The nano-suspension increases the solubility due to lower particle size and hence improve the drug efficacy.
- Because of avoiding the conventional ball milling and autoclaving process, the enantiomeric purity is retained and there is no development of the s-isomer.

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Budesonide Soft Mist Inhaler

Key Points of Our Development:

- MKPPL has designed a formulation/ matrix of the drug, lipid and pulmonary surfactants in a complete aqueous base.
- The 100 % potency of this nanosuspension is 0.25 mg/ml and 0.5 mg/ml.
- The size of our nanoparticle based suspension is in between 60 nm to 120 nm with a D90 value of 80 nm and a polydispersity index of 0.103.
- The formulation can be modified to minimize blocking at the delivery nozzle and uniformity in drug distribution.

What are SMI's ?

- Soft Mist Inhalers are typically a novel, multidose, propellant free, liquid inhaler that represents a new category of inhaler devices.

Benefits of Budesonide loaded Solid lipid nano-suspension:

1. Lower oropharyngeal drug deposition and loss.
2. Higher lung deposition of drug.
3. Free of any solvents.
4. Completely aqueous based formulation.
5. Free from Cyclodextrin

MKPPL 's Vision :

- To work and develop platform technologies for delivery of BCS Class II drugs through SMIs, not only through a propellant free platform but also through an aqueous route.

SMI Device:

Ecomist90
Soft Breezer

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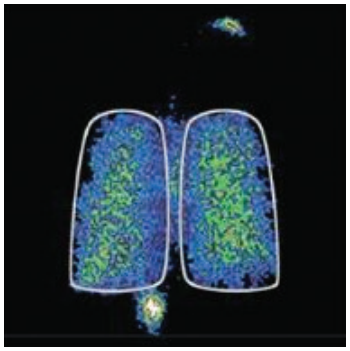
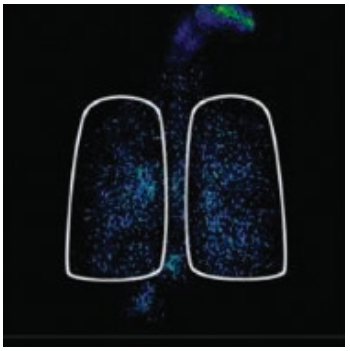
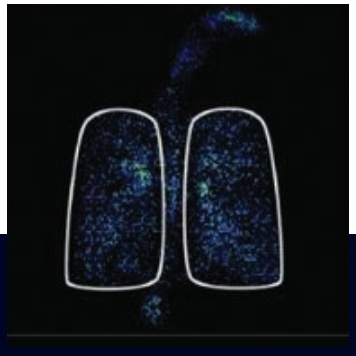
Budesonide Soft Mist Inhaler



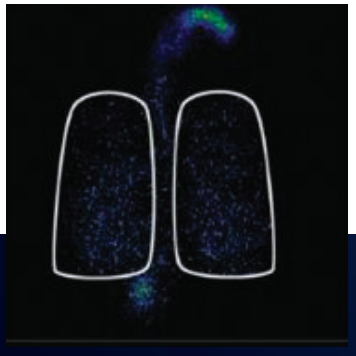
Respimat SMI



Turbohaler DPI - slow



Turbohaler DPI - slow



pMDI

Why SMIS are Considered More Effective?

We are looking at a lung deposition study using different
Inhaler platforms through typical scintigraphic images.

- Hydrofluoroalkane Pressurised Metered Dose Inhaler (HFA-pMDIs) and Dry-Powder Inhalers (DPIs) are associated with high oropharyngeal deposition and lower lung deposition whereas Soft Mist have higher lung deposition and lower oropharyngeal loss.
- DPIs have powder that can be sensitive to moisture and pMDIs uses propellant, which have toxic side effects. On the other hand, SMIs do not utilise powder form and are propellant-free

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SUPPORT THERAPY FOR ONCOLOGY

RADIHEAL:

RADIHEAL is a silicone-based film-forming, self-drying, semi-occlusive, non-resorbable topical gel preparation consisting of polydimethylsiloxanes, siloxanes, Alkyl methyl silicones, Skin restoring lipids and EGCG. It acts as a barrier by reducing mechanical friction, and transdermal water loss which have been shown to be associated with the severity of RT.

MUCOZEN:

Mucozen is a mucosal coating spray designed for the treatment of mouth sores, including those caused by chemotherapy or radiation therapy, as well as various oral irritations and canker sores.

On direct application, it forms a bio adhesive liquid lining on the oral mucosa. This bio adhesive layer effectively shields the sensitive and ulcerated epithelium in the mouth, providing relief from pain and discomfort associated with conditions like oral mucositis. The components include phospholipid (soybean phosphatidylcholine), diglyceride (caprylic acid diglyceride), coenzyme Q10 and EGCG.

The USP of Murli Krishna Pharma's product is that it is both oil and alcohol free avoiding a burning sensation during application which is not the case with the other marketed products.

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SUPPORT THERAPY FOR ONCOLOGY

MK-VITFe:

Iron deficiency during oncological treatment is a significant concern as it can exacerbate anaemia, a common condition in cancer patients, leading to severe negative impacts on quality of life and overall prognosis. The causes of iron deficiency in this context are multifaceted, including blood loss, inadequate dietary iron intake, and the body's reduced ability to absorb iron from the diet.

The critical benefits of Murli Krishna Pharma's liposomal transdermal lotion is its ease for application which can be convenient for even unconscious patients. It's smaller particle size enables an easy penetration through the uppermost layer of the skin avoiding the painful intravenous route

VITAMIN D3 Oral Solution:

Various studies indicate that It's important to maintain adequate levels of vitamin D for overall health, particularly in individuals undergoing cancer treatment. It is important that adequate levels of Vitamin D is maintained during the cancer treatment due to its various roles in the body including its impact on bone health, immune system support.

A Vitamin D3 suspension is a liquid formulation of vitamin D, designed to facilitate easier consumption and absorption of this essential nutrient. Suspensions are particularly beneficial for individuals who may have difficulty swallowing pills or capsules, such as children or the elderly.

The USP of Murli Krishna Pharma's Vitamin D3 oral suspension is that it is a complete aqueous liposomal suspension.

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PRODUCT PORTFOLIO

Ophthalmic Suspension / Solution Products

Product	Strength	Formulation	Filing
Brinzolamide	1.0 % w/v	Ophthalmic suspension	ANDA
Dorzolamide Hydrochloride	2 % w/v	Ophthalmic solution	ANDA
Timolol Maleate	0.25 % w/v	Ophthalmic solution	ANDA
Brimonidine Tartarate	0.2 % w/v	Ophthalmic solution	ANDA
Brimonidine Tartrate + Timolol Maleate	0.2%w/v+ 0.5%w/v	Ophthalmic solution	ANDA
Dexamethasone	0.1 % w/v	Ophthalmic suspension	ANDA
Brinzolamide + Brimonidine Tartrate	1.0%w/v+ 0.2%w/v	Ophthalmic suspension	ANDA
Bimatoprost + Timolol Maleate	0.03 % w/v + 0.5 % w/v	Ophthalmic suspension	ANDA
Dorzolamide Hydrochloride + Timolol Maleate	2.0%w/v+ 0.5%w/v	Ophthalmic solution	ANDA
Bimatoprost	0.01 % w/v	Ophthalmic solution	ANDA

Oral Liquid Portfolio

Product	Strength
Itraconazole Oral Solution	10 mg/ml
Melatonin Oral Solution	1 mg/ml
Alimemazine Tartrate	7.5 mg/5 ml oral Syrup
Alimemazine Tartrate	30 mg/5 ml oral syrup
Ethosuximide	250mg /5 ml Oral solution
Trazadone Hydrochloride Liquid	50 mg/ml
Gabapentin Oral Solution	50mg /5ml
Metformin Oral Solution	500 mg /5ml
Ferrous Bis Glycinate (Elemental Iron), Zinc Picolinate, Vitamin B12 and Folic Acid Syrup	200 ml
Liposomal Vitamin D3 Oral Liquid,	60000 IU
Cetirizine Hydrochloride	1mg /ml
Dicycloverine Hydrochloride solution	10 mg/ 5ml

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PRODUCT PORTFOLIO

Inhalation Products

Product	Strength	Formulation	Filing
Budesonide	0.25mg/ml, 0.5mg/ml	Soft Mist Inhaler	505(b)(2)
Tiotropium Bromide	2.5 mcg per puff	Soft Mist Inhaler	505(b)(2)
Ipratropium Bromide + Albuterol	20 mcg Ipratropium Bromide + 100 mcg albuterol per puff	Soft Mist Inhaler	505(b)(2)
Tiotropium Bromide + Olodaterol	2.5 mcg Tiotropium + 2.5 mcg Olodaterol per puff	Soft Mist Inhaler	505(b)(2)
Olodaterol	2.5 mcg per puff	Soft Mist Inhaler	505(b)(2)
Fenoterol + ipratropium bromide	20 mcg Fenoterol +50 mcg ipratropium bromide per puff	Soft Mist Inhaler	505(b)(2)
Budesonide and Formoterol	80 mcg/ 160 mcg budesonide+ 4.5 mcg formoterol	Soft Mist Inhaler	505(b)(2)
Fluticasone furoate, vilanterol trifenatate,	Fluticasone furoate 100 or 200 micrograms, umeclidinium (as bromide)	Soft Mist Inhaler	505(b)(2)
umeclidinium bromide	62.5 micrograms and vilanterol (as trifenatate) 25 micrograms per inhalation	Soft Mist Inhaler	505(b)(2)
Budesonide, Formoterol and Glycopyrrolate.		Soft Mist Inhaler	505(b)(2)

Topical Product - Women's Health + Iron Deficiency

Product	Strength	Formulation	Filing
Transdermal Micronutrient Fortified Lotion	Ferrous BisGlycinate (Elemental Iron), Vitamin D3, Vitamin B12 and Folic Acid)	lotion	IND

Support Therapy for Oncology Products

Product	Strength	Formulation	Filing
Mucozen - An oral spray for Oral mucositis in Chemotherapeutic patients	Under Development	Oral Spray	505(b)(2)
Radiheal- An ointment and spay for radiation dermatitis in Chemotherapeutic patients	Under Development	Ointment and Spray	505(b)(2)
Liposomal Vitamin D3 (60000 IU) in dual compartment bottle for enhanced stability and shelf life	Under Development	Oral Solutioon	505(b)(2)

Ophthalmic Products

Product	Strength	Formulation	Filing
Room Temperature Latanoprost (Early development stage)	Under Development	Ophthalmic Solution/Suspension	505(b)(2)
OD/BD dosage offering of Brinzolamide nano suspension	Under Development	Ophthalmic Solution/Suspension	505(b)(2)
Lipid Tears for Dry Eyes	Under Development	Ophthalmic Solution/Suspension	505(b)(2)

CLIENTS, CERTIFICATIONS AND AWARDS

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