

# Global Nano Chemotherapy Market & Clinical Trials Outlook 2022

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## Abstracts

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“Global Nano Chemotherapy Market & Clinical Trials Outlook 2022” report highlights the current development in the in the field of nano chemotherapy. Report gives comprehensive insight on various clinical and non-clinical parameters associated with the expansion of global nano chemotherapeutics market. The clinical and pricing insight on chemotherapeutics nanoformulations of approved drugs helps to understand the current market scenario of the nano chemotherapeutics.

Nano chemotherapy is emerging as an important anti-cancer modality by supplementing the traditional chemotherapy. The main aim of nano chemotherapeutics is to improve the therapeutic efficacy of currently available chemotherapeutic agents by combining it with a nano scale delivery component. The majority of the cancer nanodrugs in the market are liposomes and polymer based nanoformulations which lower the toxicity and enhance the delivery of chemotherapeutics through the passive targeting. It is based on enhanced penetration and retention effect to reduce the lymphatic drainage in tumor tissue.

Conventional chemotherapeutic agents are distributed non-specifically in body where they affect both cancerous and normal cells and thereby it limit the dose availability with in the tumor and also results in suboptimal treatment due to excessive toxicities. To overcome the limitations of chemotherapy treatment, many more therapies has also been emerged.

The use of nanoparticles by both passive and active targeting strategies can enhance the intracellular concentration of drugs in cancer cells while avoiding the toxicity in

normal cells. When the nanoparticles bind to a specific receptors and then enter the cell, usually enveloped by endosomes through receptor mediated endocytosis and thereby bypassing the recognition of P glycoprotein.

Nanomedicine has already met with success in oncology domain with various product commercially available in the market. By releasing the efficacy of nanomedicine in oncology, it increases the interest of the market players to commercialize the products in the field of nanotherapeutics and helps to increase the global market. The future of nanotherapeutics is bright and especially for the reversible cross linked nano carriers which are decorated with the cancer targeting ligands and it promote the endocytic uptake in tumor cells. The approach has the potential to overcome the drug resistance which is often with conventional chemotherapies.

For the next generation cancer nanotherapeutics, the complexity is higher which are under clinical development in terms of hybrid structures, surface physiochemical characteristics and mechanisms of delivery and action. There have been rapid advances in the nano therapeutic field in the past decade. Many of the nano carriers have been developed from which some have the great therapeutic potential. However, there remain many challenges in translating the nanoparticle drugs into the clinics.

## Contents

### **1. NANO CHEMOTHERAPEUTICS MEDIATIONS – SOLICITATION TO NANOMEDICINE**

#### 1.1 Overview

#### 1.2 Nano Chemotherapeutics with Pharmaceutical Potential

### **2. SIGNIFICANCE OF NANO CHEMOTHERAPEUTICS TO OVERCOME THE CHEMOTHERAPY LIMITATIONS**

#### 2.1 Limitations of Conventional Chemotherapy

#### 2.2 Nanotechnology in Cancer Targeting

##### 2.2.1 Active Targeting

##### 2.2.2 Passive Targeting

##### 2.2.3 pH Dependent Drug Delivery Through Nanoparticles

### **3. ROLE OF NANOTHERAPEUTICS IN VARIOUS DISEASES TREATMENT**

#### 3.1 Nanotherapeutics Approach for Cardiovascular Disease

#### 3.2 Nanotherapeutics Approach for Cancer Therapy

#### 3.3 Nanotherapeutics Approach for Diabetes Treatment

#### 3.4 Nanotherapeutics Approach for Rheumatoid Arthritis

### **4. CHEMOTHERAPEUTICS NANOFORMULATIONS OF APPROVED DRUGS: CLINICAL INSIGHTS & PRICE ANALYSIS**

#### 4.1 Abraxane (Advanced Lung, Pancreatic, Breast Cancers)

#### 4.2 Depocyte (Lymphomatous Meningitis)

#### 4.3 Doxil (Kaposi's Sarcoma, Ovarian Cancer)

#### 4.4 Marqibo (Acute Myelogenous Leukemia)

#### 4.5 Neulasta (Chemotherapy Induced Neutropenia)

#### 4.6 Oncospar (Acute Lymphoblastic Leukemia)

#### 4.7 Zevalin (Non-Hodgkin Lymphoma)

### **5. CHEMOTHERAPEUTICS NANOFORMULATIONS IN CLINICAL TRIALS: CLINICAL INSIGHT & MODE OF ACTION**

#### 5.1 MM-302 (Metastatic Breast Cancer)

- 5.2 Thermodox (Hepatobiliary Tumors)
- 5.3 CPX-351 (Acute Myelogenous Leukemia)
- 5.4 IHL-305 (Solid Tumor Malignancy)
- 5.5 MM-398 (Metastatic Pancreatic Cancer)
- 5.6 BIND-014 (Metastatic Prostate Cancer)
- 5.7 NK-012 (Solid Tumor Malignancy)
- 5.8 CRLX-101 (Solid Tumor Malignancy & Rectal Cancer)

## **6. GLOBAL MARKET NANOTHERAPEUTICS OUTLOOK**

- 6.1 Market Scenario of Nanotherapeutics
- 6.2 Market Size of Nano-Medicines

## **7. CANCER NANOTHERAPEUTICS MARKET REVENUE**

- 7.1 Sales of Nano-Chemotherapeutic Drugs
- 7.2 Top Nanotherapeutics Companies Revenue
- 7.3 Global Cancer Nanomedicine Clinical Pipeline Overview

## **8. GLOBAL NANO CHEMOTHERAPEUTICS MARKET DYNAMICS**

- 8.1 Favorable Parameters
- 8.2 Challenges to the Market Growth

## **9. FUTURE PERCEPTIVE OF NANO CHEMOTHERAPEUTICS**

## **10. COMPETITIVE LANDSCAPE**

- 10.1 Ablynx
- 10.2 AMAG
- 10.3 Amgen
- 10.4 Celgene
- 10.5 CytImmune
- 10.6 Cornerstone
- 10.7 Delpor
- 10.8 Ensysce
- 10.9 MagForce AG
- 10.10 Merrimack
- 10.11 Nanotherapeutics

10.12 Nanobiotix

10.13 Nanospectra

10.14 Spectrum pharmaceuticals

10.15 Tarveda

## List Of Figures

### LIST OF FIGURES

- Figure 1-1: Application of Nanotechnology in the Field of Medicine
- Figure 1-2: Biomedical Application of Nano chemotherapeutics
- Figure 1-3: Nano Chemotherapeutics with Pharmaceutical Potential
- Figure 2-1: Limitations to Conventional Chemotherapy Treatment
- Figure 3-1: Nanotherapeutics for Heart Disease Treatment
- Figure 3-2: Nanotherapeutics Approach in Cancer Therapy
- Figure 3-3: Nanotherapeutics Approach for Diabetes Treatment
- Figure 3-4: Rheumatoid Arthritis Treatment by Nanotherapeutics
- Figure 4-1: Abraxane - Market Price (US\$ per Unit Injection) & Patent Expiration Year
- Figure 4-2: Cytarabine - Market Price for 20 mg/ml & 100 mg/ml (US\$)
- Figure 4-3: Doxil & Doxorubicin - Price of Intravenous Solution (US\$)
- Figure 4-4: Marqibo - Price of Intravenous Solution (US\$) & Patent Expiration Year
- Figure 4-5: Neulasta - Price for 6 mg/ 0.6 ml & Per Unit Cost (US\$)
- Figure 4-6: Oncospar - Price for 750 Units/ml & for Per Unit Cost (US\$)
- Figure 4-7: Zevalin - Price of Intravenous Solution (US\$) & Patent Expiration Year
- Figure 5-1: Mechanism of Action of MM-302
- Figure 5-2: Mechanism of Action of Thermodox & its Mechanical Release
- Figure 5-3: Future Development of CPX-351
- Figure 5-4: Outsourcing for BIND-014 Clinical Supplies
- Figure 5-5: Structure of NK-012 & Release of SN-38 from NK-012
- Figure 5-6: Design of a Clinical Trial for CRLX-101
- Figure 6-1: Global - Nanomedicine Market (US\$ Billion), 2016-2022
- Figure 7-1: Sales of Nano Chemotherapeutic Sales (US\$, Million), 2016
- Figure 7-2: Nano Chemotherapeutics Companies Sales Revenue (US\$, Million), 2015
- Figure 7-3: Global - Cancer Nanoparticle Pipeline by Phase (%), 2016 till 2022
- Figure 7-4: Global - Cancer Nanoparticle Pipeline by Phase (Numbers), 2016 till 2022
- Figure 7-5: Global - Cancer Nanoparticle Pipeline by Phase (%), 2016 till 2022
- Figure 7-6: Global - Cancer Nanoparticle Pipeline by Phase (Numbers), 2016 till 2022
- Figure 8-1: Favorable Parameters to Nano Chemotherapeutic Market
- Figure 8-2: Challenges to Nano chemotherapeutics Market Growth
- Figure 9-1: Future Development Opportunities of Nanomedicine

## List Of Tables

### LIST OF TABLES

Table 3-1: Adverse Reactions with ? 5% Higher Incidence in Neulasta Patients Compared to Placebo

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