

**Nanomedicine Drugs Approved and in Development**

Product	Disease Area	Active Pharmaceutical Ingredient(s)	Stage of Development	Company (Innovator)	Technology Description	Indications	Approval Year*
Abraxane®	Oncology	Paclitaxel	Marketed	Celgene (Abraxis)	Albumin-bound Nanoparticle	Breast Cancer, Non-Small Cell Lung Cancer, Pancreatic Cancer	2005
AmBisome®	Anti-Infective	Amphotericin B	Marketed	Astellas	Liposome	Antifungal: Cryptococcus, Aspergillus, and Candida	1997
Amphotec®	Anti-Infective	Amphotericin B	Marketed	Alkopharma	Lipid Complex	Antifungal: Invasive Aspergillus	1996
DaunoXome®	Oncology	Daunorubicin	Marketed	Galen (NeXstar)	Liposome	Advanced HIV-Associated Kaposi's Sarcoma	1996
Diprivan®	CNS	Propofol	Marketed	Fresenius Kabi	Micellar	Initiation and maintenance of monitored Anesthesia Care, Total or General Anesthesia	1996
Doxil®	Oncology	Doxorubicin	Marketed	Janssen (Sequus)	Liposome	Ovarian Cancer, AIDS-Related Kaposi's Sarcoma, Multiple Myeloma	1995
Emend®	Anti-Emetic	Aprepitant	Marketed	Merck (Elan)	Nanocrystal	Highly and Moderately Emetogenic Cancer Chemotherapy	2003
Estrasorb®	Endocrine	Estradiol	Marketed	Medicis	Micellar	Moderate to Severe Vasomotor Symptoms	2003
Genexol-PM®	Oncology	Paclitaxel	Marketed	Samyang	Micellar	Breast Cancer, Non-Small Cell Lung Cancer	2007 (Korea)
Invega Sustenna®	CNS	Paliperidone Palmitate	Marketed	Janssen (Elan)	Nanocrystal	Schizophrenia, Schizoaffective Disorder	2009
Lipodox™	Oncology	Doxorubicin	Marketed	Sun	Liposome	Ovarian Cancer, AIDS-Related Kaposi's Sarcoma, Multiple Myeloma	2013
Marqibo®	Oncology	Vincristine	Marketed	Spectrum (Inex)	Liposome	Acute Lymphoblastic Leukemia	2012
Megace ES®	Endocrine	Megestrol Acetate	Marketed	Endo (Elan)	Nanocrystal	Anorexia or Cachexia in AIDS Patients	2005
Mepact®	Oncology	Mifamurtide	Marketed	Takeda	Liposome	Osteosarcoma	2009 (EMA)
Myocet®	Oncology	Doxorubicin	Marketed	Teva (Elan)	Liposome	Breast Cancer	2000 (EMA)
Onivyde®	Oncology	Irinotecan	Marketed	Merrimack	Liposome	Pancreatic Cancer	2015
Rapamune®	Immuno-Suppressive	Sirolimus	Marketed	Pfizer (Elan)	Nanocrystal	Renal Transplant Patients	2000
Restasis®	Ophthalmic	Cyclosporine	Marketed	Allergan	Micellar	Increase Tear Production	2002
Tricor®	Cardiovascular	Fenofibrate	Marketed	Abbvie (Elan)	Nanocrystal	Hypercholesterolemia, Hypertriglyceridemia, Mixed Dyslipidemia	2004
Triglide®	Cardiovascular	Fenofibrate	Marketed	Shionogi (Skyepharma)	Nanocrystal	Hypercholesterolemia, Hypertriglyceridemia, Mixed Dyslipidemia	2005
Visudyne®	Ophthalmic	Verteporfin	Marketed	Valeant (QLT)	Liposome	Predominantly Classic Subfoveal Choroidal Neovascularization	2000
VivaGel®	Anti-Infective	Astodimer Sodium	Marketed	Starpharma	Dendrimer	Bacterial Vaginosis	2015 (EMA)
Apealea (Paclical®)	Oncology	Paclitaxel	Phase 3	Oasmia	Micellar	Ovarian Cancer	---
Livatag®	Oncology	Doxorubicin	Phase 3	Onxeo	Nanoparticle	Hepatocellular Carcinoma	---
Lipoplatin™	Oncology	Cisplatin	Phase 3	Regulon	Liposome	Non-Small Cell Lung Cancer	---
Nanoplatin™ (NC-600)	Oncology	Cisplatin	Phase 3	NanoCarrier	Polymeric Nanoparticle	Pancreatic Cancer	---
NBTXR3	Oncology	Modified Hafnium Oxide	Phase 3	Nanobiotix	Metallic Nanoparticle	Advanced Soft Tissue Sarcoma	---
NK-105	Oncology	Paclitaxel	Phase 3	Nippon Kayaku (NanoCarrier)	Polymeric Nanoparticle	Breast Cancer	---
Patisiran	CNS	siRNA (Transthyretin)	Phase 3	Alynlyam (Arbutus)	Lipid Nanoparticles	hATTR-PN	---
ThermoDox®	Oncology	Doxorubicin	Phase 3	Celsion	Liposome	Hepatocellular Carcinoma	---
Vyxeos™	Oncology	Cytarabine/Daunorubicin	Phase 3	Celator	Liposome	Acute Myeloid Leukemia	---
ARB-1467	Anti-Infective	RNAi (HBV)	Phase 2	Arbutus Biopharma	Lipid Nanoparticles	Hepatitis B	---
BIND-014	Oncology	Docetaxel	Phase 2	BIND Therapeutics	Polymeric Nanoparticle	Non-Small Cell Lung Cancer	---
CPX-1	Oncology	SN38	Phase 2	Celator	Liposome	Colorectal Cancer	---
CRLX101	Oncology	Camptothecin	Phase 2	Cerulean Pharma	Polymeric Nanoparticle	Renal Cancer, Rectal Cancer, Ovarian Cancer	---
CYT-6091	Oncology	TNF	Phase 2	CytImmune Sciences	Metallic Nanoparticle	Non-Small Cell Lung Cancer	---
DermaVir	Anti-Infective	pDNA	Phase 2	Genetic Immunity	Polymeric Nanoparticle	HIV	---
LEP-ETU	Oncology	Paclitaxel	Phase 2	Insys	Liposome	Cervical Cancer, Cholangiocarcinoma	---
MM-302	Oncology	Doxorubicin	Phase 2	Merrimack	Liposome	Breast Cancer	---
PNT2258	Oncology	PNT100	Phase 2	ProNAi Therapeutics	Liposome	Diffuse Large B-Cell Lymphoma, Richter's Transformation	---
SB05 (EndoTAG-1)	Oncology	Paclitaxel	Phase 2	SynCore Biotechnology	Liposome	Pancreatic Cancer	---
AZD2811	Oncology	AZD2811	Phase 1	Astellas (BIND Therapeutics)	Polymeric Nanoparticle	Various Cancers	---
ARB-1598	Anti-Infective	RNAi (TLR9)	Phase 1	Arbutus Biopharma	Lipid Nanoparticles	Hepatitis B	---
Cerebral EDV™	Oncology	Doxorubicin	Phase 1	EnGeneIC	Nanocells	Glioma	---
Cripec® Docetaxel	Oncology	Docetaxel	Phase 1	Cristal Therapeutics	Polymeric Nanoparticle	Solid Tumors	---
CRLX301	Oncology	Docetaxel	Phase 1	Cerulean Pharma	Polymeric Nanoparticle	Solid Tumors	---
DCR-MYC	Oncology	siRNA (Myc)	Phase 1	Dicerna (Arbutus)	Lipid Nanoparticles	Various Cancers	---
DCR-PH1	Cardiovascular	siRNA (HAO1)	Phase 1	Dicerna (Arbutus)	Lipid Nanoparticles	Primary Hyperoxaluria Type 1	---
GEN-1	Oncology	DNA (IL-12 Plasmid)	Phase 1	Celsion	Polymeric Nanoparticle	Ovarian Cancer	---
NANO Efavirenz	Anti-Infective	Efavirenz	Phase 1	St Stephens Aids Trust	Nanocrystal	HIV	---
NANO Lopinavir	Anti-Infective	Lopinavir	Phase 1	St. Stephens Aids Trust	Nanocrystal	HIV	---
PDS0101	Oncology	HPV E6 + E7 Peptides	Phase 1	PDS Biotechnology	Liposome	HPV-Related Cancers	---
NC-4016	Oncology	Oxaliplatin	Phase 1	NanoCarrier	Polymeric Nanoparticle	Colorectal Cancer	---

Last Update (m/d/y)	Update Reference
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