



Nanoparticles Approved in the United States (US) and Europe (EU) for Medical Applications

This list includes all nanoparticles currently approved for medical use in the United States by the Food and Drug Administration (FDA) and in Europe by the European Medicines Agency (EMA).

Updated: 28 Jul 2017

Name (developer)	Nanoparticle Class	Indication(s) [Approval Year & Region]	Links
Adagen® <i>Pegademase bovine</i> (Sigma-Tau Pharmaceuticals)	Polymer Nanoparticle	Adenosine deaminase (ADA) deficiency in patients with severe combined immunodeficiency disease (SCID) [1990 US]	www.adagen.com
Adynovate® <i>Antihemophilic factor (recombinant), PEGylated</i> (Shire)	Polymer Nanoparticle	Hemophilia [2015 US]	www.adynovate.com
Cimzia® <i>Certolizumab pegol</i> (UCB)	Polymer Nanoparticle	Crohn's disease [2008 US] [2009 EU] Rheumatoid arthritis [2009 US] [2009 EU] Psoriatic arthritis [2013 US] [2009 EU] Ankylosing spondylitis [2013 US] [2009 EU]	www.cimzia.com Wikipedia
Copaxone®; Glatopa® <i>Glatiramer acetate</i> (Teva Neuroscience)	Polymer Nanoparticle	Multiple sclerosis (MS) [1996 US]	www.copaxone.com www.glatopa.com Wikipedia
Eligard® <i>Leuprolide acetate</i> (Tolmar Pharmaceuticals)	Polymer Nanoparticle	Prostate cancer [2002 US]	www.eligard.com Wikipedia
Krystexxa® <i>Pegloticase</i> (Crealta Pharmaceuticals)	Polymer Nanoparticle	Chronic gout [2010 US] [2013 EU]	www.krystexxa.com Wikipedia
LC Bead LUMI™/DC Bead LUMI™ (Biocompatibles UK)	Polymer Nanoparticle	Hypervascular tumors and arteriovenous malformations (AVMs) [2015 US] [2017 EU]	Drugs@FDA - 510(k) Summary LC-BeadLUMI.com
Macugen® <i>Pegaptanib</i> (Bausch & Lomb)	Polymer Nanoparticle	Neovascular age-related macular degeneration [2004 US] [2006 EU]	Macugen.com Wikipedia
Mircera® <i>mPEG-epoetin beta</i> (Roche)	Polymer Nanoparticle	Anemia associated with chronic kidney disease [2007 US/EU]	Mircera - Product Details Wikipedia
Neulasta® <i>Pegfilgrastim</i> (Amgen)	Polymer Nanoparticle	Chemotherapy induced neutropenia [2002 US/EU]	www.neulasta.com Wikipedia

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Oncaspar® <i>Pegaspargase</i> (Shire)	Polymer Nanoparticle	Acute lymphoblastic leukemia [1994 US] [2016 EU]	www.oncaspar.com Wikipedia
Pegasys® <i>Peginterferon alpha-2a</i> (Roche)	Polymer Nanoparticle	Hepatitis B and C [2002 US/EU]	Pegasys.com Wikipedia
PegIntron® <i>Peginterferon alpha-2a</i> (Merck)	Polymer Nanoparticle	Hepatitis C [2001 US] [2000 EU]	Discontinued in 2015 Wikipedia
Plegridy® <i>Peginterferon beta-1a</i> (Biogen)	Polymer Nanoparticle	Multiple sclerosis (MS) [2014 US/EU]	www.plegridy.com Wikipedia
Renvela®/Renagel® <i>Sevelamer hydrochloride</i> (Genzyme)	Polymer Nanoparticle	Chronic kidney disease [2000 US/EU]	www.renvela.com Wikipedia
Somavert® Pegvisomant (Pfizer)	Polymer Nanoparticle	Acromegaly [2003 US] [2002 EU]	www.somavert.com Wikipedia
Welchol® <i>Colesevelam hydrochloride</i> (Daiichi-Sankyo)	Polymer Nanoparticle	Type II diabetes [2000 US]	welchol.com Wikipedia
Abelcet® <i>Amphotericin B</i> (Sigma-Tau Pharmaceuticals)	Liposome Nanoparticle	Fungal infections [1995 US]	abelcet.com Wikipedia
AmBisome® <i>Amphotericin B</i> (Gilead Sciences)	Liposome Nanoparticle	Fungal/protozoal infections [1997 US]	www.ambisome.com Wikipedia
Curosurf® <i>Poractant alpha</i> (Chiesei)	Liposome Nanoparticle	Respiratory distress syndrome [1999 US]	www.curosurf.com Wikipedia
DaunoXome® <i>Daunorubicin</i> (Galen)	Liposome Nanoparticle	Kaposi's sarcoma [1996 US]	Discontinued 2016 www.galen.co.uk Wikipedia
DepoCyt© <i>Cytarabine</i> (Pacira Pharmaceuticals)	Liposome Nanoparticle	Lymphomatous meningitis [1999 US] [2001 EU]	www.depocyt.com Wikipedia
DepoDur® <i>Morphine sulfate</i> (Pacira Pharmaceuticals)	Liposome Nanoparticle	Analgesia (post-operative) [2004 US]	depodur.com Wikipedia

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Doxil®/Caelyx™ <i>Doxorubicin</i> (Janssen)	Liposome Nanoparticle	Kaposi's sarcoma [1995 US] [1996 EU] Ovarian cancer [2005 US] [1996 EU] Multiple myeloma [2008 US] [1996 EU] Breast cancer [1996 EU]	www.doxil.com Wikipedia
Marqibo® <i>Vincristine sulfate</i> (Spectrum Pharmaceuticals)	Liposome Nanoparticle	Acute lymphoblastic leukemia [2012 US]	www.marqibo.com Wikipedia
Mepact® <i>Mifamurtide</i> (IDM Pharma)	Liposome Nanoparticle	Bone cancer [2009 EU]	mepact.com Wikipedia
Myocet® <i>Doxorubicin</i> (Teva UK)	Liposome Nanoparticle	Breast cancer [2000 EU]	myocet.com Wikipedia
Onivyde® <i>Irinotecan hydrochloride</i> (Ipsen Biopharmaceuticals)	Liposome Nanoparticle	Pancreatic cancer [2015 US] [2016 EU]	www.onivyde.com Wikipedia
Visudyne® <i>Verteporfin</i> (Novartis)	Liposome Nanoparticle	Age-related macular degeneration [2000 US/EU] Pathologic myopia [2000 US/EU] Ocular histoplasmosis [2000 US/EU]	Visudyne.com Wikipedia
Estrasorb™ <i>Estradiol hemihydrate</i> (Novavax/Graceway)	Micellar Nanoparticle	Menopausal therapy [2003 US]	Drugs@FDA - Prescribing Information Wikipedia
Taxol® <i>Paclitaxel</i> (Bristol Myres Squibb)	Micellar Nanoparticle	Ovarian cancer [1992 US] Breast cancer [1994 US] Kaposi's sarcoma [1997 US] Non-small cell lung cancer [1998 US]	Drugs@FDA - Patient Information Wikipedia
Taxotere® <i>Docetaxel</i> (Sanofi-Aventis)	Micellar Nanoparticle	Breast Cancer [1996 US] [1995 EU] Non-small cell lung cancer [1999 US] [1995 EU] Prostate cancer [2004 US] [1995 EU] Gastric cancer [2006 US] [1995 EU] Head and neck cancer [2006 US] [1995 EU]	taxotere.com Wikipedia

Name (developer)	Nanoparticle Class	Indication(s) [Approval Year & Region]	Links
Abraxane® ABI-007 <i>Protein-bound paclitaxel</i> (Celgene)	Protein Nanoparticle	Breast cancer [2005 US] [2008 EU] Non-small cell lung cancer (NSCLC) [2012 US] [2005 EU] Pancreatic cancer [2013 US] [2008 EU]	www.abraxane.com Wikipedia
Ontak® <i>Denileukin diftitox</i> (Eisai)	Protein Nanoparticle	Cutaneous T-cell lymphoma [1999 US]	Discontinued 2014 Wikipedia
Avinza® <i>Morphine sulfate</i> (Pfizer)	Nanocrystals	Pain management [2002 US]	Discontinued 2015 avinza.com Wikipedia
Emend® <i>Aprepitant</i> (Merck)	Nanocrystals	Antiemetic [2003 US/EU]	www.emend.com Wikipedia
EquivaBone® (Zimmer Biomet)	Nanocrystals	Bone substitute [2009 US]	equivabone.com
Focalin XR® <i>Dexmethylphenidate hydrochloride</i> (Novartis)	Nanocrystals	Attention deficit hyperactivity disorder (ADHD) [2005 US]	www.focalinxr.com Wikipedia
Invega Sustenna®/Xeplion® <i>Paliperidone palmitate</i> (Janssen Pharms)	Nanocrystals	Schizophrenia [2009 US] [2011 EU]	www.invegasustenna.com Wikipedia
Megace ES® <i>Megestrol acetate</i> (Endo Pharms)	Nanocrystals	Anti-anorexic [2005 US]	Wikipedia
NanOss® (Rti Surgical)	Nanocrystals	Bone substitute [2005 US]	nanoss.com
OsSatura® (IsoTis Orthobiologics)	Nanocrystals	Bone substitute [2003 US]	Recalled 2006
Ostim® (Heraeus Kulzer)	Nanocrystals	Bone substitute [2004 US]	Ostim - Product Information
Rapamune® <i>Sirolimus</i> (Pfizer)	Nanocrystals	Immunosuppressant [1999 US] [2001 EU]	rapamune.com Wikipedia
Ritalin LA® <i>Methylphenidate hydrochloride</i> (Novartis)	Nanocrystals	Attention deficit hyperactivity disorder (ADHD) [2002 US]	Ritalin LA - Prescribing Information Wikipedia

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Ryanodex® <i>Dantrolene sodium</i> (Eagle Pharmaceuticals)	Nanocrystals	Malignant hyperthermia [2014 US]	www.ryanodex.com Wikipedia
Tricor® <i>Fenofibrate</i> (AbbVie)	Nanocrystals	High cholesterol and high triglyceride levels [2004 US]	Wikipedia
Triglide® <i>Fenofibrate</i> (SkyePharma AG)	Nanocrystals	High cholesterol and triglycerides [2005 US]	Drugs@FDA - Prescribing Information
Vitoss® (Stryker)	Nanocrystals	Bone substitute [2003 US]	vitoss.com Vitoss Synthetic Cancellous Bone
Zanaflex® <i>Tizanidine hydrochloride</i> (Acorda)	Nanocrystals	Muscle relaxant [1996 US]	zanaflex.com Wikipedia
Dexferrum®/ DexIron® (Luitpold Pharmaceuticals)	Inorganic and Metallic Nanoparticles	Iron deficiency [1996 US]	Dexiron - Therapeutic Classification Dexferrum - MSDS Wikipedia
Feraheme™/Rienso® <i>Ferumoxylol</i> (AMAG pharmaceuticals)	Inorganic and Metallic Nanoparticles	Iron deficiency anemia in chronic kidney disease [2009 US] [2012 EU]	www.feraheme.com Wikipedia
Feridex®/Endorem® (AMAG pharmaceuticals)	Inorganic and Metallic Nanoparticles	Magnetic Resonance Imaging (MRI) agent [1996 US]	Discontinued 2008 Feridex - archive Wikipedia
Ferrlecit® (Sanofi Avertis)	Inorganic and Metallic Nanoparticles	Iron deficiency anemia in chronic kidney disease [1999 US]	www.ferrlecit.com Wikipedia
GastroMARK™/ Lumirem® (AMAG pharmaceuticals)	Inorganic and Metallic Nanoparticles	Magnetic Resonance Imaging (MRI) agent [1996 US/EU]	Discontinued 2012 Wikipedia
INFeD® (Allergan Pharma)	Inorganic and Metallic Nanoparticles	Iron deficiency anemia in chronic kidney disease [1974 US]	INFeD - Product Information Wikipedia
Injectafer®/Ferinject® (Luitpold Pharmaceuticals)	Inorganic and Metallic Nanoparticles	Iron deficiency anemia in chronic kidney disease [2013 US]	www.injectafer.com Ferinject - Prescribing Information eMC - Product Information Wikipedia
Resovist®/Cliavist™ (Bayer Schering Pharma)	Inorganic and Metallic Nanoparticles	Magnetic Resonance Imaging (MRI) agent [2001 EU]	Abandoned 2009 Wikipedia
Venofer® (Luitpold Pharmaceuticals)	Inorganic and Metallic Nanoparticles	Iron deficiency anemia in chronic kidney disease [2000 US]	www.venofer.com Wikipedia
Inflexal® V (Berna Biotech/Crucell)	Virosome Nanoparticle	Influenza	eMC - Patient Information