LACTEL Absorbable Polymers

References on the Use of LACTEL® Absorbable Polymers for Nanoparticles

L00168 Almeria B, Gomez A. Electrospray synthesis of monodisperse polymer particles in a broad (60nm-2um) diameter range: guiding principles and formulation recipes. Journal of Colloid and Interface Science 2014; 417:121-130. >>> Poly(DL-lactide-co-glycolide) ester terminated; 50:50; MW 11-136 kDa; drug delivery (nanoparticles); electrospraying.

L00142 Devalliere J, Chang WG, Andrejecsk JW, Abrahimi P, Cheng CJ, Jane-wit D et al. Sustained delivery of proangiogenic microRNA-132 by nanoparticle transfection improves endothelial cell transplantation. The FASEB Journal 2014; 28(2):908-922. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.55-0.75 dL/g; drug delivery (nanoparticles, miRNA, siRNA, coumarin 6); "nanoparticles composed of PLGA, a biodegradable and nontoxic polymer, have been shown to be efficient and chemically modifiable carriers of siRNA and miRNA." (p. 909); siRNAs targeted survivin, caveolin 1, clathrin and AP2M1; ester terminated.

L00237 Kulkarni SS, Kompella UB. Nanoparticles for Drug and Gene Delivery in Treating Diseases of the Eye. Methods in Pharmacology and Toxicology 2014;291-316. >>> Poly(L-lactide); IV 0.9-1.2 dL/g in chloroform (PLA); drug delivery (nanoparticles); detailed steps for nanoparticle preparation by single emulsion method for hydrophobic drugs and double emulsion method for hydrophilic drugs; also used 50:50 PLGA from another manufacturer; detailed methods for nanoparticle characterization and drug release analysis.

L00247 Luk BT, Hu CMJ, Fang RH, Dehaini D, Carpenter C, Gao W et al. Interfacial interactions between natural RBC membranes and synthetic polymeric nanoparticles. Nanoscale 2014; 6:2730-2737. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.67 dL/g; drug delivery (nanoparticle); red blood cell membrane-cloaked nanoparticle platform.

L00252 Martin DT, Steinbach JM, Liu J, Shimizu S, Kaimakliotis HZ, Wheeler MA et al. Surface modified nanoparticles enhance transurothelial penetration and delivery of survivin siRNA in treating bladder cancer. Molecular Cancer Therapeutics 2014; 13:71-81. >>> Poly(DL-lactide-co-glycolide); drug delivery (nanoparticles, penatratin, chitosan, coumarin-6, survivin siRNA); mouse; targeted delivery (bladder; tumor).

L00197 Psimadas D, Baldi G, Comes Franchini M, Locatelli E, Innocenti C, Sangregorio C et al. Comparison of the magnetic, radiolabeling, hyperthermic and biodistribution properties of hybrid nanoparticles bearing CoFe2O4 and Fe3O4 metal cores. Nanotechnology 2014; 25:1-9. >>> Poly(DL-lactide-co-glycolide); 75:25; MW 76-120 kDa; drug delivery (metal oxide nanoparticles); "Hybrid CoFe2O4 NPs were prepared by adding an acetone solution of... PLGA... at a concentration of 0.1% and CoFe2O4-EHO (0.04%) to a water solution containing 0.1% w/w of BSA...".

L00261 Rescignano N, Fortunati E, Montesano S, Emiliani C, Kenny JM, Martino S et al. PVA bio-nanocomposites: a new take-off using cellulose nanocrystals and PLGA nanoparticles. Carbohydrate polymers 2014; 99:47-58. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.95-1.20 dL/g; drug delivery (nanoparticles, bovine serum albumin fluorescein isothiocynate conjugate);

L00198 Bhamidipati M, Sridharan BP, Scurto AM, Detamore MS. Subcritical CO2 sintering of microspheres of different polymeric materials to fabricate scaffolds for tissue engineering. Materials Science and Engineering C 2013; 33:4892-4899. >>> Poly(DL-lactide-co-glycolide); poly(e-caprolactone); 50:50; IV 1.3 dL/g - 42-44 kDa; IV 1.1-1.3 dL/g - 110- 125 kDa; tissue engineering (scaffold); < 3 months; < 24 months; "Uniform PLGA and PCL microspheres were lyophilized for 48 h and stored at 20 °C. A 10% polymer solution for PCL and a 20% polymer solution for PLGA were used to prepare the microspheres.".

L00160 Chaowanachan T, Krogstad E, Ball C, Woodrow KA. Drug Synergy of Tenofovir and Nanoparticle-Based Antiretrovirals for HIV Prophylaxis. PloS one 2013; 8(4):e61416. >>> Poly(DL-lactide-co-glycolide) ester terminated; 50:50; MW ~30 kDa; drug delivery (nanoparticles, efavirenz); "NP-EFV had a particle size of approximately 200 nm with low polydispersity (0.08)"; "EFV was dissolved in dichloromethane (DCM) containing 1.5% PLGA".

L00199 Chen HC, Zhan X, Shen H. Selectively targeting the toll-like receptor 9 (TLR9) - IRF 7 signaling pathway by polymer blend particles. Biomaterials 2013; 34:6464-6472. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.65 dL/g; drug delivery (nanoparticles, CpG oligonucleotides); "The blend particles were fabricated by using the double emulsion method." pg 6465.

L00191 Chen Y, Yang Z, Liu C, Wang C, Zhao S, Yang J et al. Synthesis, characterization, and evaluation of paclitaxel loaded in six-arm star-shaped poly(lactic-co-glycolic acid). International Journal of Nanomedicine 2013; 8:4315-4326. >>> Poly(DL-lactide-co-glycolide); IV 1.11 dL/g at 30C in chloroform; drug delivery (nanoparticles, paclitaxel); "The most important advantage of 6-s-PLGA (star-shaped) is the high stability of the formed polyplexes." pg 4325.

L00136 Cui Y, Xu Q, Chow PK-H, Wang D, Wang CH. Transferrin-conjugated magnetic silica PLGA nanoparticles loaded with doxorubicin and paclitaxel for brain glioma treatment. Biomaterials 2013; 34(33):8511-8520. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.24-0.54 dL/g in HFIP; drug delivery (nanoparticles, doxorubicin, paclitaxel); drug loaded nanoparticles were injected IV into tumor bearing mice; in vivo biodistribution (p. 8516).

L00236 Deok Kong S, Sartor M, Jack Hu CM, Zhang W, Zhang L, Jin S. Magnetic field activated lipid–polymer hybrid nanoparticles for stimuli-responsive drug release. Acta Biomaterialia 2013; 9(3):5447-5452. >>> Poly(DL-lactide-co-glycolide); drug delivery (stimuli-responsive nanoparticles, camptothecin);

L00144 Ditto AJ, Reho JJ, Shah KN, Smolen JA, Holda JH, Ramirez RJ et al. In Vivo Gene Delivery with l-Tyrosine Polyphosphate Nanoparticles. Molecular Pharmaceutics 2013; 10(5):1836-1844. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.95-1.20 dL/g; drug delivery (nanoparticles); rat; control nanoparticles; targeted delivery (uterine myometrium).

L00147 Elizarova OS, BalabanΓÇÖyan VY, Shipulo EV, Maksimenko OO, Vanchugova LV, Litvinova SA et al. Efficacy of a new colloidal form of low-sialylated polylactide-based erythropoietin in experimental hemorrhagic stroke in rats. Pharmaceutical Chemistry Journal 2013; 46(10):626-629. >>> Poly(L-lactide); IV 0.34 dL/g, IV 0.68 dL/g; drug delivery (nanoparticles);

L00150 Fontana CR, Lerman MA, Patel N, Grecco C, de Souza Costa CA, Amiji MM et al. Safety assessment of oral photodynamic therapy in rats. Lasers in medical science 2013; 28:479-486. >>> Poly(DL-lactide-co-glycolide); 50:50; MW 12 kDa; drug delivery (nanoparticles, methylene blue); rat; nanoparticles produced by solvent displacement procedure.

L00151 Fortunati E, Mattioli S, Visai L, Imbriani M, Fierro JÇL, Kenny JÇM et al. Combined Effects of Ag Nanoparticles and Oxygen Plasma Treatment on PLGA Morphological, Chemical, and Antibacterial Properties. Biomacromolecules 2013; 14(3):626-636. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.95-1.20 dL/g - MW 91.6-120 kDa; biomaterial (nanocomposite film, silver); films produced by solvent casting.

L00157 Gullotti E, Park J, Yeo Y. Polydopamine-Based Surface Modification for the Development of Peritumorally Activatable Nanoparticles. Pharmaceutical Research 2013; 30(8):1956-1967. >>> Poly(DL-lactide-co-glycolide) acid terminated; 50:50; IV 0.15-0.25 dL/g - MW 4.2 kDa; drug delivery (nanoparticles, polydopamine, TAT protein, fluoresceinamine, paclitaxel);

L00193 Hung SW, Mody H, Marrache S, Bhutia YD, Davis F, Cho JH et al. Pharmacological Reversal of Histone Methylation Presensitizes Pancreatic Cancer Cells to Nucleoside Drugs: In Vitro Optimization and Novel Nanoparticle Delivery Studies. PloS one 2013; 8(8):e71196. >>> Poly(DL-lactide-co-glycolide) ester terminated; IV 0.18 dL/g; drug delivery (nanoparticles, gemcitabine); gemcitabine was emulsified with PLGA-b-PEG-OH in dichloromethane using probe sonication; cancer.

L00212 Kong SD, Sartor M, Hu CMJ, Zhang W, Zhang L, Jin S. Magnetic field activated lipid–polymer hybrid nanoparticles for stimuli-responsive drug release. Acta Biomaterialia 2013; 2013(9):5447-5452. >>> Poly(DL-lactide-co-glycolide); drug delivery (nanoparticles, camptothecin, iron oxide); up to 1 month;

L00250 Marrache S, Choi JH, Tundup S, Zaver D, Harn DA, Dhar S. Immune stimulating photoactive hybrid nanoparticles for metastatic breast cancer. Integrative Biology 2013; 5(1):215-223. >>> Poly(DL-lactide-co-glycolide)-COOH; IV 0.18 dL/g; drug delivery (nanoparticles, zinc, DNA);

L00257 Pridgen EM, Alexis F, Kuo TT, Levy-Nissenbaum E, Karnik R, Blumberg RS et al. Transepithelial Transport of Fc-Targeted Nanoparticles by the Neonatal Fc Receptor for Oral Delivery. Science translational medicine 2013; 5(213):213ra167. >>> Poly(L-lactide) acid terminated; Poly(DL-lactide-co-glycolide) acid terminated; IV 0.50 dL/g (PLA); IV 0.20 dL/g (PLGA); drug delivery (nanoparticles, insulin); mice;

L00258 Qiu Y, Palankar R, Echeverr+¡a Ma, Medvedev N, Moya SE, Delcea M. Design of hybrid multimodal poly (lactic-co-glycolic acid) polymer nanoparticles for neutrophil labeling, imaging and tracking. Nanoscale 2013; 5(24):12624-12632. >>> Poly(DL-lactide-co-glycolide); 50:50; drug delivery (nanoparticles, quantum dots, superparamagnetic iron oxide);

L00260 Ragheb RR, Kim D, Bandyopadhyay A, Chahboune H, Bulutoglu B, Ezaldein H et al. Induced clustered nanoconfinement of superparamagnetic iron oxide in biodegradable nanoparticles enhances transverse relaxivity for targeted theranostics. Magnetic Resonance in Medicine 2013; 70(6):1748-1760. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.59 dL/g; drug delivery (nanoparticles, superparamagnetic iron oxide, coumarin-6, avidin); mice; biodistribution analyzed.

L00262 Rescignano N, Tarpani L, Tiribuzi R, Montesano S, Martino S, Latterini L et al. Protein encapsulation in biodegradable polymeric nanoparticles: morphology, fluorescence behaviour and stem cell uptake. Macromolecular bioscience 2013; 13(9):1204-1212. >>> Poly(DL-lactide-co-glycolide) ester terminated; 50:50; IV 0.95-1.2 dL/g - MW 91.6-120 kDa; drug delivery (nanoparticles, bovine serum albumin fluorescein isothiocynate conjugate);

L00263 Rinaldi S, Fortunati E, Taddei M, Kenny JM, Armentano I, Latterini L. Integrated PLGA–Ag nanocomposite systems to control the degradation rate and antibacterial properties. Journal of Applied Polymer Science 2013; 130(2):1185-1193. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.95-1.20 dL/g; biomaterial (composite nanoparticles, silver); film cast.

L00182 Schneider J, Jallouk AP, Vasquez D, Thomann R, Forget A, Pino CJ et al. Surface Functionality as a Means to Impact Polymer Nanoparticle Size and Structure. Langmuir 2013; 29:4092-4095. >>> Poly(DL-lactide-co-glycolide); MW 30 kDa in acetone and N-methyl-2-pyrrolidone; drug delivery (nanoparticles); "we demonstrate that through judicious choice of the surface functionalization species, control over both NP size and structure can be established without varying polymer concentration." pg. 4092.

L00183 Shibata A, McMullen E, Pham A, Belshan M, Sanford B, Zhou Y et al. Polymeric Nanoparticles Containing Combination Antiretroviral Drugs for HIV Type 1 Treatment. AIDS research and human retroviruses 2013; 29(5):746-754. >>> Poly(DL-lactide-co-glycolide); IV 0.59 dL/g in HFIP - MW 52 kDa; drug delivery (nanoparticles, efavirenz, lopinavir/ritonavir); "NP's were prepared using the emulsion-solvent evaporation method." pg 747.

L00175 Stojanovic Z, Otonicar M, Lee J, Stevanovic MM, Hwang MP, Lee KH et al. The solvothermal synthesis of magnetic iron oxide nanocrystals and the preparation of hybrid poly(l-lactide)–polyethyleneimine magnetic particles. Colloids and Surfaces B: Biointerfaces 2013; 109:236-243. >>> Poly(L-lactide); MW 160 kDa in chloroform; drug delivery (nanoparticles, genes/gene transfection);

L00178 Valencia PM, Pridgen EM, Rhee M, Langer R, Farokhzad OC, Karnik R. Microfluidic Platform for Combinatorial Synthesis and Optimization of Targeted Nanoparticles for Cancer Therapy. ACS nano 2013; 7(12):10671-10680. >>> Poly(DL-lactide-co-glycolide); MW 15 kDa, 45 kDa, 70 kDa; drug delivery (nanoparticles); mice (Balb/c); cancer.

L00203 Xu Q, Leong J, Chua QY, Chi YT, Chow PKH, Pack DW et al. Combined modality doxorubicin-based chemotherapy and chitosan-mediated p53 gene therapy using double-walled microspheres for treatment of human hepatocellular carcinoma. Biomaterials 2013; 34:5149-5162. >>> Poly(DL-lactide-co-glycolide); Poly(L-lactide); 50:50; IV 0.61 dL/g in HFIP; IV 1.05 dL/g in chloroform; drug delivery (microsphere, doxorubicin, chitosan-mediated p53); cancer; gene therapy.

L00207 Youm I, Younan BBC. Validated Reverse-Phase High-Performance Liquid Chromatography for Quantification of Furosemide in Tablets and Nanoparticles. Journal of Analytical Methods in Chemistry 2013; 2013:1-9. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.4, 0.58, 0.8 dL/g; drug delivery (nanoparticles, furosemide);

L00209 Zou P, Stern ST, Sun D. PLGA/Liposome Hybrid Nanoparticles for Short-Chain Ceramide Delivery. Pharm Res 2013; 31(3):684-693. >>> Poly(DL-lactide-co-glycolide) acid terminated; IV 0.65 dL/g - MW 30 kDa in THF; drug delivery (nanoparticles, ceramide); ceramide-loaded PLGA nanoparticles were prepared using a nanoprecipitation method.

L00216 Behera A, Sahoo SK. Preparation and Evaluation of Glibenclamide-Loaded Biodegradable Nanoparticles. Tropical Journal of Pharmaceutical Research 2012; 11(3):345-350. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.41 dL/g; drug delivery (nanoparticles, glibenclamide); "GB-loaded PLGA NPs were successfully prepared by emulsification/solvent evaporation method using varying GB/PLGA ratios." pg 349.

L00228 Cai T, Hu PD, Sun M, Zhou J, Tsai YT, Baker D et al. Novel thermogelling dispersions of polymer nanoparticles for controlled protein release. Nanomedicine: Nanotechnology, Biology, and Medicine 2012; 8:1301-1308. >>> Poly(L-lactide); MW 137 kDa; drug delivery (microparticles); mice (BALB/c, 8-12 wks old, male, 20-25 g); 2 week drug administration; PLLA microparticles used as control vs IPN nanoparticles.

L00211 Das M, Sahoo SK. Folate Decorated Dual Drug Loaded Nanoparticle: Role of Curcumin in Enhancing Therapeutic Potential of Nutlin-3a by Reversing Multidrug Resistance. PloS one 2012; 7(3):1-18. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.41 dL/g; drug delivery (nanoparticles, folate); nanoparticles prepared by oil-in-water single emulsion-solvent evaporation technique; cancer.

L00140 Date AA, Shibata A, Goede M, Sanford B, La Bruzzo K, Belshan M et al. Development and evaluation of a thermosensitive vaginal gel containing raltegravir+ efavirenz loaded nanoparticles for HIV prophylaxis. Antiviral Research 2012; 96(3):430-436. >>> Poly(DL-lactide-*co*-glycolide); IV 0.59 dL/g in HFIP - MW 52 kDa; drug delivery (nanoparticles, raltegravir, efavirenz);

L00159 Hou Y, Hu J, Park H, Lee M. Chitosan– based nanoparticles as a sustained protein release carrier for tissue engineering applications. Journal of Biomedical Materials Research Part A 2012; 100(4):939-947. >>> Poly(DL-lactide-co-glycolide) acid terminated; 85:15; 50:50; IV 0.61, 0.67 dL/g; tissue engineering (scaffold); scaffolds created using a solvent casting and particulate leaching technique; scaffolds were coated with protein loaded chitosan nanoparticles.

L00230 Kadam RS, Tyagi P, Edelhauser HF, Kompella UB. Influence of choroidal neovascularization and biodegradable polymeric particle size on transscleral sustained delivery of triamcinolone acetonide. International Journal of Pharmaceutics 2012; 434(1):140-147. >>> Poly(L-lactide); IV 0.95-1.20 dL/g; drug delivery (nanoparticles, nanoparticles; triamcinolone acetonide); rat; targeted delivery (eye: subconjunctival space); nanoparticles prepared by o/w emulsion-solvent evaporation.

L00115 Korbelik M, Madiyalakan R, Woo T, Haddadi A. Antitumor Efficacy of Photodynamic Therapy Using Novel Nanoformulations of Hypocrellin Photosensitizer SL052. Photochemistry and Photobiology 2012; 88(1):188-193. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.26-0.54 dL/g in HFIP; drug delivery (nanoparticles, SL052); mice; "PLGA has many advantages such as biodegradability, biocompatibility with a wide range of drugs, suitable biodegradation kinetics and physicochemical properties and ease of processing" p.188; Comparison of nanocarrier systems based on PLGA-NPs and PVP-NPs.

L00187 Rosevear HM, Krishnamachari Y, Ariza CA, Mallapragada SK, Salem AK, Griffith TS et al. Effect of Combined Locally Delivered Growth Factors and Systemic Sildenafil Citrate on Microrecanalization in Biodegradable Conduit for Vas Deferens Reconstruction. Urology 2012; 79(4):967-9e1. >>> Poly(DL-lactide); tissue engineering (biodegradable conduit); rat (male Sprague-Dawley); PDLA in chloroform; biodegradable conduit for vas deferens reconstruction.

L00213 Steinbach JM, Weller CE, Booth CJ, Saltzman WM. Polymer nanoparticles encapsulating siRNA for treatment of HSV-2 genital infection. Journal of Controlled Release 2012; 162(2012):102-110. >>> Poly(DL-lactide-co-glycolide) acid terminated; IV 0.55-0.75 dL/g in dichloromethane; drug delivery (nanoparticles, siRNA, nectin-1 sense, antisense, UL29.2 sense, antisense); "here we show for the first time, that our NPs formed from FDA-approved PLGA prevent lethal intravaginal infection of HSV-2 in mice." pg 109.

L00218 Yang J, Zeng Y, Zhang C, Chen YX, Yang Z, Li Y et al. The prevention of restenosis in vivo with a VEGF gene and paclitaxel co-eluting stent. Biomaterials 2012; 2012(34):1635-1643. >>> Poly(DL-lactide-co-glycolide); 50:50; MW 60 kDa; drug delivery (nanoparticles, VEGF plasmid, paclitaxel); "we have developed a stent coated with bi-layered PLGA nanoparticles... containing VEGF plasmid in the outer layer and paclitaxel in the inner core" pg 1635.

L00195 Acharya S, Sahoo SK. Sustained targeting of Bcr–Abl+ leukemia cells by synergistic action of dual drug loaded nanoparticles and its implication for leukemia therapy. Biomaterials 2011; 32(24):5643-5662. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.41dL/g - MW 34 kDa; drug delivery (nanoparticles, paclitaxel, doxorubicin, etoposide, rapamycin, nutilin, curcumin); "Drug loaded PLGA nanoparticles were prepared by oil-in-water single emulsion solvent evaporation method..." pg 5644.

L00158 Han H, Peng JR, Chen PC, Gong L, Qiao SS, Wang WZ et al. A novel system of artificial antigen-presenting cells efficiently stimulates Flu peptide-specific cytotoxic T cells in vitro. Biochemical and Biophysical Research Communications 2011; 411(3):530-535. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.55-0.75 dL/g - MW 8 kDa; drug delivery (nanoparticles, interleukin-2); microspheres produced by double emulsion water-in-oil-in-water method.

L00233 Klepac-Ceraj V, Patel N, Song X, Holewa C, Patel C, Kent R et al. Photodynamic effects of methylene blue–loaded polymeric nanoparticles on dental plaque bacteria. Lasers in surgery and medicine 2011; 43(7):600-606. >>> Poly(DL-lactide-co-glycolide); 50:50; MW 12 kDa; drug delivery (nanoparticles, methylene blue); nanoparticles prepared by solvent displacement method.

L00223 Ma W, Smith T, Bogin V, Zhang Y, Ozkan C, Ozkan M et al. Enhanced presentation of MHC class Ia, Ib and class II-restricted peptides encapsulated in biodegradable nanoparticles: a promising strategy for tumor immunotherapy. Journal of translational medicine 2011; 9(1):34-43. >>> Poly(DL-lactide-co-glycolide); drug delivery (nanoparticles, peptide antigens); peptides used (MART-127-35, gp100209-217\, mSTEAP326-335, murine TCR Vb8.2 chain peptides: B5 (76-101), p42 (42-50)); cancer.

L00224 Phipps MC, Clem WC, Catledge SA, Xu Y, Hennessy KM, Thomas V et al. Mesenchymal stem cell responses to bone-mimetic electrospun matrices composed of polycaprolactone, collagen I and nanoparticulate hydroxyapatite. PloS one 2011; 6(2):1-8. >>> Poly(e-caprolactone); MW 110 kDa in HFIP; tissue engineering (scaffold, hydroxyapatite); drug delivery (nanoparticles); electrospinning.

L00225 Yallapu MM, Ebeling MC, Chauhan N, Jaggi M, Chauhan SC. Interaction of curcumin nanoformulations with human plasma proteins and erythrocytes. International Journal of Nanomedicine 2011; 6:2779-2790. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 1.32 dL/g at 30C; drug delivery (nanoparticles, curcumin, dendrimer); "nanoformulation(s) based on polylactic-co-glycolic acid (PLGA), ß-cyclodextrin, cellulose, nanogel, and dendrimers"; cancer.

L00229 Zou L, Nair A, Weng H, Tsai YT, Hu Z, Tang L. Intraocular Pressure Changes: An Important Determinant of the Biocompatibility of Intravitreous Implants. PloS one 2011; 6(12):1-9. >>> Poly(L-lactide); MW 137 kDa; drug delivery (nanoparticles); rabbit (Dutch, 4-5 lbs);

L00114 Chan JM, Valencia PM, Zhang L, Langer R, Farokhzad OC. Polymeric nanoparticles for drug delivery. Methods in Molecular Biology 2010; 624:163-175. >>> Poly(DL-lactide-*co*-glycolide); drug delivery (nanoparticles); Book chapter (chpt 11).

L00113 Fang RH, Aryal S, Hu CMJ, Zhang L. Quick Synthesis of Lipid – Polymer Hybrid Nanoparticles with Low Polydispersity Using a Single-Step Sonication Method. Langmuir 2010; 26(22):16958-16962. >>> Poly(DL-lactide-*co*-glycolide); IV 0.82 dL/g; drug delivery (nanoparticles); bare PLGA nanoparticles served as a positive control.

L00112 Hu CMJ, Kaushal S, Cao HST, Aryal S, Sartor M, Esener S et al. Half-Antibody Functionalized Lipid – Polymer Hybrid Nanoparticles for Targeted Drug Delivery to Carcinoembryonic Antigen Presenting Pancreatic Cancer Cells. Molecular Pharmaceutics 2010; 7(3):914-920. >>> Poly(DL-lactide-*co*-glycolide); IV 0.16 dL/g; drug delivery (nanoparticles, paclitaxel); in vitro; cancer (pancreatic).

L00001 Acharya S, Dilnawaz F, Sahoo SK. Targeted epidermal growth factor receptor nanoparticle bioconjugates for breast cancer therapy. Biomaterials 2009; 30(29):5737-5750. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.41 dL/g - MW 34 kDa; drug delivery (nanoparticles, rapamycin); in vitro; good methods p. 5738 (nanoparticle preparation); therapeutic indication (breast cancer); selective drug delivery; surface coated with AB; 18% of drug was released after 24 hours and 50% after 15 days.

L00046 Basarkar A, Singh J. Poly (lactide-co-glycolide)-Polymethacrylate Nanoparticles for Intramuscular Delivery of Plasmid Encoding Interleukin-10 to Prevent Autoimmune Diabetes in Mice. Pharmaceutical Research 2009; 26(1):72-81. >>> Poly(DL-lactide-*co*-glycolide); IV 0.17 dL/g - MW 10 kDa; drug delivery (nanoparticles, IL-10 plasmid); mice (male BALB/c mice, 5-6 week old); intramuscular.

L00021 Cartiera MS, Johnson KM, Rajendran V, Caplan MJ, Saltzman WM. The uptake and intracellular fate of PLGA nanoparticles in epithelial cells. Biomaterials 2009; 30(14):2790-2798. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.59 dL/g - MW 30-70 kDa; tissue engineering (nanoparticles); in vitro

L00055 Cartiera MS, Ferreira EC, Caputo C, Egan ME, Caplan MJ, Saltzman WM. Partial Correction of Cystic Fibrosis Defects with PLGA Nanoparticles Encapsulating Curcumin. Molecular Pharmaceutics 2009; 7(1):86-93. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.59 dL/g - MW 30-70 kDa; drug delivery (nanoparticles, curcumin); mice (C57/BL6); "Oral administration of PLGA nanoparticles encapsulating curcumin enhances the effects of curcumin therapy in CF mice, as compared to delivery of nonencapsulated curcumin." p. 86; "PLGA is a widely used biodegradable polymer and has been shown to have bioadhesive properties that facilitate its binding with the mucosa of the GI tract p. 92".

L00041 Demento SL, Eisenbarth SC, Foellmer HG, Platt C, Caplan MJ, Mark Saltzman W et al. Inflammasome-activating nanoparticles as modular systems for optimizing vaccine efficacy. Vaccine 2009; 27(23):3013-3021. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.59 dL/g; drug delivery (nanoparticles, LPS); mice (C57BL/6, 6-8 weeks old); SC, intranasal, oral.

L00073 Gu F, Langer R, Farokhzad OC. Formulation/preparation of functionalized nanoparticles for in vivo targeted drug delivery. Methods in molecular biology (Clifton, NJ) 2009; 544(Chapter 37):589-598. >>> Poly(DL-lactide-*co*-glycolide); drug delivery (nanoparticles, docetaxel); mice (nude); PEG was added to PLGA; "The PLGA viscosity can influence the rate of PLGA- *b* -PEG conjugation. For high-viscosity PLGA, dilute PLGA in DCM to 0.1-0.25 g/mL before adding EDC/NHS." p. 597.

L00013 Molavi O, Ma Z, Hamdy S, Lavasanifar A, Samuel J. Immunomodulatory and anticancer effects of intra-tumoral co-delivery of synthetic lipid A adjuvant and STAT3 inhibitor, JSI-124. Immunopharmacology and immunotoxicology 2009; 31(2):214-221. >>> Poly(DL-lactide-*co*-glycolide); 50:50; MW 7 kDa; drug delivery (nanoparticles, ligand, 7-acyl lipid); mice (C57BL/6 male, 6 to 10 weeks old); PLGA-NP delivery of 7-acyl lipid A to DCs reduced the suppressive effects of Treg cells on T cells in vitro; the average tumor volume in the tumor-bearing mice that received JSI-124 plus 7-acyl lipid A PLGA-NPs combination therapy was found to be significantly lower than that in PBS and monotherapy groups; targeted delivery (tumor).

L00045 Reddy MK, Labhasetwar V. Nanoparticle-mediated delivery of superoxide dismutase to the brain: an effective strategy to reduce ischemia-reperfusion injury. The FASEB Journal 2009; 23(5):1384-1395. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 1.32 dL/g; drug delivery (nanoparticles, superoxide-dismutase); rat (Sprague-Dawley, male, 250-300 g); Cerebral ischemia injury model; animals receiving SOD-NPs (10,000 U of SOD/ kg) demonstrated a 65% reduction in infarct volume; the mechanism of efficacy appears to be due to sustained delivery of the encapsulated SOD" p. 1394; targeted delivery (brain).

L00069 Stevanovi M, Maksin T, Petkovi J, Filipi M, Uskokovi D. An innovative, quick and convenient labeling method for the investigation of pharmacological behavior and the metabolism of poly (DL-lactide-co-glycolide) nanospheres. Nanotechnology 2009; 20:1-12. >>> Poly(DL-lactide-*co*-glycolide); MW 40-50 kDa; drug delivery (nanoparticles); in vitro; "Neither PLGA nanospheres nor PLGA/ascorbic acid 85:15% nanoparticles significantly affected the viability of the HepG2 cells" p. 1.

L00148 Woodrow KA, Cu Y, Booth CJ, Saucier-Sawyer JK, Wood MJ, Saltzman WM. Intravaginal gene silencing using biodegradable polymer nanoparticles densely loaded with small-interfering RNA. Nature materials 2009; 8(6):526-533. >>> Poly(DL-lactide-co-glycolide) ester terminated; 50:50; IV 0.55-0.75 dL/g; drug delivery (nanoparticles, siRNA); mice; "We chose to build a delivery system from PLGA because it is already FDA-approved for a variety of clinical applications and has been used safely in humans for several decades." (p. 531); targeted delivery (intravaginal).

L00077 Gu F, Zhang L, Teply BA, Mann N, Wang A, Radovic-Moreno AF et al. Precise engineering of targeted nanoparticles by using self-assembled biointegrated block copolymers. Proceedings of the National Academy of Sciences 2008; 105(7):2586-2591. >>> Poly(DL-lactide-*co*-glycolide); IV 0.67 g/dL in HFIP - MW 100 kDa; drug delivery (nanoparticles, docetaxel); 3 days; drug released at a sustained rate for 3 days; targeted delivery (tumor).

L00071 Hamdy S, Molavi O, Ma Z, Haddadi A, Alshamsan A, Gobti Z et al. Co-delivery of cancer-associated antigen and Toll-like receptor 4 ligand in PLGA nanoparticles induces potent CD8+ T cell-mediated anti-tumor immunity. Vaccine 2008; 26:5046-5057. >>> Poly(DL-lactide-*co*-glycolide); 50:50; MW 7 kDa; drug delivery (nanoparticles); mice (tumor bearing); "In addition to their biocompatibility and biodegradability, PLGA nanoparticles (PLGA-NP) offer great flexibility with respect to the manipulation of physicochemical properties of the polymer and the range of antigens and immunomodulators that they can accommodate." p.5046; cancer research.

L00036 Mondalek FG, Lawrence BJ, Kropp BP, Grady BP, Fung KM, Madihally SV et al. The incorporation of poly (lactic-co-glycolic) acid nanoparticles into porcine small intestinal submucosa biomaterials. Biomaterials 2008; 29(9):1159-1166. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 1.05 dL/g - MW 106 kDa; tissue engineering (scaffold);

L00103 Patel AR, Kulkarni S, Nandekar TD, Vavia PR. Evaluation of alkyl polyglucoside as an alternative surfactant in the preparation of peptide-loaded nanoparticles. Journal of Microencapsulation 2008; 25(8):531-540. >>> Poly(DL-lactide); poly(DL-lactide-*co*-glycolide); 50:50; MW 2 kDa, MW 28.022 kDa; drug delivery (nanoparticles, peptide); rabbit; "PLGA is considered to be relatively less hydrophobic as compared to PLA. Thus, NP preparation using PLA as the polymer requires a higher amount of surfactant as compared to PLGA." p. 536.

L00084 Rao KS, Reddy MK, Horning JL, Labhasetwar V. TAT-conjugated nanoparticles for the CNS delivery of anti-HIV drugs. Biomaterials 2008; 29(33):4429-4438. >>> Poly(L-lactide); IV 0.4 dL/g - MW 40 kDa; drug delivery (nanoparticles); mice; targeted delivery (CNS).

L00044 Reddy MK, Wu L, Kou W, Ghorpade A, Labhasetwar V. Superoxide dismutase-loaded PLGA nanoparticles protect cultured human neurons under oxidative stress. Applied Biochemistry and Biotechnology 2008; 151(2):565-577. >>> Poly(DL-lactide-*co*-glycolide); 50:50; MW 23 kDa; drug delivery (nanoparticles, superoxide-dismutase); in vitro; "The neuroprotective effect of SOD-NPs is dose-dependent, with efficacy seen at >100 U SOD, with less significant effects at lower doses" p. 1; studied biocompatibility of PLGA-NPs with human neurons.

L00027 Zhang L, Chan JM, Gu FX, Rhee JW, Wang AZ, Radovic-Moreno AF et al. Self-Assembled Lipid-Polymer Hybrid Nanoparticles: A Robust Drug Delivery Platform. ACS nano 2008; 2(8):1696-1702. >>> Poly(DL-lactide-*co*-glycolide); drug delivery (nanoparticles); in vitro;

L00059 Cheng J, Teply BA, Sherifi I, Sung J, Luther G, Gu FX et al. Formulation of functionalized PLGA-PEG nanoparticles for in vivo targeted drug delivery. Biomaterials 2007; 28(5):869-876. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.20 dL/g in HFIP - MW 17 kDa; drug delivery (nanoparticles); mice (xenograft prostate cancer model); Targeted delivery (tumor).

L00072 Hamdy S, Haddadi A, Somayaji V, Ruan D, Samuel J. Pharmaceutical analysis of synthetic lipid A-based vaccine adjuvants in poly (D,L-lactic-*co*-glycolic acid) nanoparticle formulations. Journal of pharmaceutical and biomedical analysis 2007; 44(4):914-923. >>> Poly(DL-lactide-*co*-glycolide); 50:50; MW 7 kDa; drug delivery (nanoparticles); cancer research.

L00085 Stevanovic MM, Jordovic B, Uskokovic DP. Preparation and characterization of poly (D, L-lactide-co-glycolide) nanoparticles containing ascorbic acid. Journal of Biomedicine and Biotechnology 2007;(84965):1-8. >>> Poly(DL-lactide-*co*-glycolide); 50:50; MW 40-50 kDa; drug delivery (nanoparticles, ascorbic acid); 4-8 weeks; "DLPLG nanospheres are very efficient mean of transdermal transport of medicaments in the body." p. 1; nanoparticle creation process chart, p. 2; molecular weight of ascorbic acid was 176.13 g/mol.

L00028 Townsend SA, Evrony GD, Gu FX, Schulz MP, Brown RH, Langer R. Tetanus toxin C fragment-conjugated nanoparticles for targeted drug delivery to neurons. Biomaterials 2007; 28(34):5176-5184. >>> Poly(DL-lactide-*co*-glycolide); MW 20 k/Da; drug delivery (nanoparticles, tetanus toxin C); in vitro;

L00050 Gomez-Lopera SA, Arias JL, Gallardo V, Delgado AV. Colloidal stability of magnetite/poly (lactic acid) core/shell nanoparticles. Langmuir 2006; 22:2816-2821. >>> Poly(DL-lactide); drug delivery (nanoparticles, magnetite, composite colloid shell / core); in vitro; "Experimental investigation on the colloidal stability of suspensions of three kinds of particles, including magnetite, poly(lactic acid) (PLA), and composite core/shell colloids formed by a magnetite core surrounded by a PLA shell".

L00087 Sahoo SK, Labhasetwar V. Enhanced antiproliferative activity of transferrin-conjugated paclitaxel-loaded nanoparticles is mediated via sustained intracellular drug retention. Mol Pharm 2005; 2(5):373-383. >>> Poly(DL-lactide-*co*-glycolide); 50:50; MW 23 kDa; drug delivery (nanoparticles, transferrin-conjugated paclitaxel); in vitro; "The advantage of these NPs is their sustained release property, and since the drug is encapsulated, it is not exposed to the cell membrane associated efflux transporters." p. 374.

L00040 Prabha S, Labhasetwar V. Critical determinants in PLGA/PLA nanoparticle-mediated gene expression. Pharmaceutical Research 2004; 21(2):354-364. >>> Poly(DL-lactide); poly(DL-lactide-*co*-glycolide); 50:50; 75:25; MW 12 kDa, 53 kDa and 143 kDa for 50:50; MW 53 kDa for 75:25 and 50:50; drug delivery (nanoparticles, plasmid DNA); "Nanoparticles formulated using PLGA polymer demonstrated greater gene transfection than those formulated using PLA polymer, and this was attributed to the higher DNA release from PLGA nanoparticles. Higher-molecular-weight PLGA resulted in the formation of nanoparticles with higher DNA loading, which demonstrated higher gene expression than those formulated with lower molecular-weight PLGA." p. 354 polymer characteristics tables on p. 357.