Document	Title	Abstract	First Claim	Patentee	Granted	Priority
EP3338802B1	BIPHASIC CREATINE NUTRACEUTIC COMPOSITION	A biphasic creatine nutraceutic composition comprises one creatine fast-release component, and one creatine slow-release component comprising creatine supported on magnesium hydroxide.	1. Biphasic creatine nutraceutic composition, comprising: - a creatine fast-release component, and - a creatine slow-release component comprising creatine supported on magnesium hydroxide. | 9. The nutraceutic composition of clam 8, wherein the fast-release component also comprises creatine citrate, creatine piruvate, ester creatine.	EKALAB S.R.L., 31050 Ponzano Veneto (TV), IT, 101648900	2019-02-20	2016-12-22
EP3189848B1	A COMPOSITION COMPRISING TRIPEPTIDES FOR THE TREATMENT OF DISEASES OF THE JOINTS AND THE SPINE	Agents intended for prevention and treatment of diseases of the joints and methods of their application are proposed. The group of the inventions pertains to creation of the agents intended for prevention and treatment of diseases of the joints, in particular arthritis, osteoarthritis, and osteochondrosis of the spine, as well as other conditions and diseases accompanied by pain and joint lesions and methods of their application. The invention pertains to the agents intended for prevention and treatment of diseases of the joints, comprising a mixture of peptides Lys-Asp-Glu, Ala-Asp-Glu, Asp-Glu-Gly and chondroitin and/or its salts and/or glucosamine and/or its salts as well as methods of their application enabling the achievement of a synergistic effect associated with the combined use of the peptide combination and chondroitin and/or its salts and/or glucosamine and/or its salts. Application of the compositions is accompanied by a pronounced analgesic effect and results in positive changes in the dynamics of clinical and biochemical parameters, contributes to normalization of the morphostructure of joint tissues, including the cytoarchitectonics of cartilaginous tissue accompanied by decrease in the number of chondrocytes undergoing apoptosis, particularly its final stages, and exerts a favorable effect on the metabolic processes that occur in chondrocytes via activation of the synthetic processes and normalization of the biopolymer composition of cartilaginous matrix.	1. A pharmaceutical composition comprising peptides Lys-Asp-Glu, Ala-Asp-Glu, Asp-Glu-Gly, chondroitin or its salts, and a pharmaceutically acceptable carrier. 5. A pharmaceutical composition comprising peptides Lys-Asp-Glu, Ala-Asp-Glu, Asp-Glu-Gly, glucosamine or its salts and a pharmaceutical acceptable carrier. 9. A pharmaceutical composition, comprising peptides Lys-Asp-Glu, Ala-Asp-Glu, Asp-Glu-Gly, chondroitin or its salts, glucosamine or its salts and a pharmaceutically acceptable carrier.	Zamerton Holdings Limited, 6018 Larnaka, CY, 101462580	2019-02-27	2014-09-09
EP3068450B1	TOOTH PROSTHESIS AS ADMINISTRATION FORM FOR TREATING CHRONIC DISEASES	The present invention relates to a three-dimensional long-term active substance depot (Fig. 1a-k) which in particular is prepared on an individual basis, with a fissure surface and/or cutting edge individual to the patient, as a replica of at least part of a tooth, in particular of an individual molar of the patient, comprising at least one dental material and at least one active substance with a content that is sufficient for a continuous therapeutically effective dose over a period of at least one week, in particular sufficient to ensure a therapeutically active concentration of active substance in the blood of the patient over a prolonged period of several weeks. The invention likewise relates to a pharmaceutically active dental composition and to a pharmaceutically active dental material obtainable therefrom for producing the three-dimensional active substance depot, a method for producing the three-dimensional long-term active substance depot, its use for transmucosal active substance release and for treating chronic diseases. The invention therefore also	1. Three-dimensional long-term active ingredient depot (10) having a patient-individual fissure surface as three-dimensional replica of at least one part of a tooth of a dental restauration, wherein the outer dimensions of a single active ingredient depot do not exceed the dimensions of at least one molar and comprise a patient-individual replica of at least one part of a tooth, comprising A) a pharmaceutically active dental composition comprising (i) optionally, at least one excipient, and (ii) at least one active ingredient selected from antidementives, acetylcholinesterase inhibitors, levodopa, decarboxylase inhibitors, entacapone, selegiline, dopaminergic agonists, amantadine, anticholinergics, budipine, neuroleptics, antidepressants, anticonvulsants, lithium salts, antiarrhythmics, antidiabetics, proton pump inhibitors, antianginals, anti-inflammatory active ingredients, anti-viral active ingredients, antimycotics, antihistamines, chemotherapeutics, proteins, hormones and/or other pharmaceutically effective substances for the treatment of chronic diseases comprising dementia, Alzheimer's disease, Parkinson's disease,	Kulzer GmbH, 63450 Hanau, DE, 101682940	2019-02-27	2013-11-13

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		relates to a method for long-term administration of at least one active substance for transmucosal active substance release for treating chronic diseases such as dementia, diabetes, Alzheimer's disease, Parkinson's disease, depression, cardiovascular disease, osteoporosis, arthritis, gout and rheumatism.	depressions, cardiovascular diseases, diabetes, osteoporosis, arthritis, gout and rheumatism, and combinations of at least two of the afore-mentioned active ingredients and/or substances, and B) at least one dental material, wherein (A) and (B) are present as at least partial mixture and the content (ii) of the at least one active ingredient is present in sum in the active ingredient depot with a content being sufficient for a defined, therapeutically effective dosage over a period of greater than or equal to one week, wherein the at least one dental material (B) and/or the at least partial mixture of (A) and (B) comprises a) at least one acrylate polymer and optionally at least one filler or b) composite materials, denture plastics, veneer plastics, filling materials, cement materials, ceramic materials, silicate cements, Ca-cements, zinc-phosphate cements, glass ionomer cements, glass polyalkenoate cements, light-curing cements, cermet cements, composite cements, core build-ups, post build-ups, fissure sealants and veneer, wherein the mentioned dental materials may be selfadhesive or non-adhesive respectively and, as non-adhesive dental materials, are used with at least one dental adhesive, primer and/or bonding.			
EP2978760B1	CYCLIC N-ACYL O-AMINO PHENOL CBI DERIVATIVE	A group of cyclic N-acyl O-amino phenol CBI derivatives were synthesized and shown to be pro-drugs, subject to reductive activation by cleavage of a N-0 bond, effectively releasing the free drug in functional in vitro cellular assays for cytotoxic activity approaching the activity of the free drug, yet remain essentially stable to ex vivo DNA alkylation conditions. Assessment of the in vivo antitumor activity of a representative pro-drug indicates that a contemplated pro-drug approaches the potency and exceeds the efficacy of the free drug itself (CBI-indole 2), indicating that the inactive pro-drugs not only effectively release the free drug in vivo, but that they offer additional advantages related to a controlled or targeted release in vivo.	1. A cyclic N-acyl O-amino phenol CBI derivative represented by Formula I: wherein: R is hydrido or a C 1 -C 6 hydrocarbyl; and R 3 is selected from group consisting of radicals represented as follows: wherein: R 4 is selected from group consisting of radicals represented as follows: R 5 , R 6 , R 7 and R 8 are each independently selected from the group of radicals consisting of -H, -OH, -O(C 1 -C 6 hydrocarbyl), C 1 -C 6 hydrocarbyl and halogen; and R 9 is selected from the group of radicals consisting of -H, -C(O)O(C 1 -C 6 hydrocarbyl), -C(O)(C 1 -C 6 hydrocarbyl), -C(O)NH 2 , -C(O)NHNH 2 , and -C(O)NHNHC(O)O(C 1 -C 6 hydrocarbyl).	The Scripps Research Institute, La Jolla, CA 92037, US, 101046342	2019-02-27	2013-03-28
EP2874617B1	BACLOFEN AND ACAMPROSATE BASED THERAPY OF MACULAR DEGENERATION DISORDERS	The present invention relates to combinations and methods for the treatment of macular degeneration disorders. More specifically, the present invention relates to novel combinatorial therapies of Age related Macular Degeneration based on baclofen and acamprosate combination.	1. A composition comprising (i) baclofen or arbaclofen placarbil, or a salt or sustained release formulation thereof, and (ii) acamprosate or homotaurine or taurine or ethyl dimethyl ammonio propane sulfonate, or a salt or sustained release formulation thereof, for use in treating or preventing a macular degeneration disorder in a subject in need thereof, or for inhibiting or stopping the progression of said disorder. | 10. Baclofen or arbaclofen placarbil, or a salt or sustained release formulation thereof; in combination with at least acamprosate or homotaurine or taurine or ethyl dimethyl ammonio propane sulfonate, or a salt or sustained release formulation thereof, for use in treating or preventing a macular degeneration disorder in a subject in need thereof, or for inhibiting or stopping the progression of said disorder.	Pharnext, 92130 Issy-les-Moulineaux, FR, 101271484	2019-02-27	2012-07-18
EP2854890B1	INJECTABLE BIODEGRADABLE PARTICLES FOR CONTROLLED	In accordance with one aspect, embolic particles are provided that comprise a biodegradable polymer and a therapeutic agent, wherein the particles are configured such that,	1. An embolic particle comprising a biodegradable polymer and a therapeutic agent, wherein the particle is configured such that, upon administration to a body lumen of a subject, the	Boston Scientific Scimed Inc., Maple Grove, MN 55311-	2019-02-06	2012-05-30

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	THERAPEUTIC AGENT RELEASE	upon administration to a body lumen of a subject, the therapeutic agent is released from the time of administration up until a first point in time that ranges anywhere from about 1 week after administration to about 4 weeks after administration, at which point in time the therapeutic agent release ceases. The particles are also configured such that particles remain present in the body lumen from the first point in time at which therapeutic agent release ceases up to a second point in time that ranges anywhere from about 2 weeks to about 12 months after the first point in time, at which point the particles are completely degraded. Other aspects pertain to methods of making such particles. Still other aspects pertain to injectable compositions that comprise such particles and to methods of treatment that employ such injectable compositions.	therapeutic agent is released from the time of administration up until a first point in time that ranges anywhere from 1 week after administration to 4 weeks after administration, at which point in time the therapeutic agent release ceases, and such that the particle remains present in the body lumen from the first point in time at which therapeutic agent release ceases up to a second point in time that ranges anywhere from 2 weeks to 12 months after the first point in time, at which point the particle is completely degraded, wherein said embolic particle comprises a biodegradable core and a biodegradable shell, wherein the core contains the biodegradable polymer and the shell contains the biodegradable polymer, wherein said shell comprises apertures but does not comprise said therapeutic agent, wherein said core comprises said therapeutic agent dispersed throughout and degrades more quickly than said shell, and wherein said polymer is an amino-acid-based poly (ester amide).	1566, US, 101201096		
EP2827839B1	GELLING AGENT-BASED DOSAGE FORM	The present invention generally relates to dosage forms for oral administration including one or more gelling agents. In particular, the present invention is directed to gelling agent-based dosage forms that are easily administered and taken, or swallowed. The present invention is also directed to gelling agent-based dosage forms that exhibit relatively low syneresis, are thermally stable, exhibit substantially constant active ingredient concentration, and/or exhibit one or more advantageous rheological properties. In particular, the present invention is directed to such gels containing one or more omega-3 fatty acids. The gelling agent-based dosage forms of the present invention are suitable for administration of a relatively large dose of active ingredient. The gelling agent-based dosage forms of the present invention are also suitable for administration of multiple active ingredients. Dosage forms of the present invention also provide tamper resistance and, thus, prevent recovery or diversion of active ingredients contained therein. The gelling agent-based dosage forms are also suitable for use as gastro-retentive and sustained release dosage forms.	1. An aqueous gel emulsion composition, the emulsion comprising a lipophilic phase dispersed within a gelled aqueous phase, and an emulsifier, wherein the lipophilic phase comprises a lipophilic active ingredient, and the gelled aqueous phase comprises water and gelling agents, wherein: the gelling agents are xanthan gum, locust bean gum, iota-carrageenan, and gum tragacanth; and xanthan gum constitutes from 0.1 to 2 wt% of the composition, locust bean gum constitutes from 0.1 to 1 wt% of the composition, iota-carrageenan constitutes from 0.1 to 1 wt% of the composition, and gum tragacanth constitutes from 0.1 to 1 wt% of the composition.	Particle Dynamics International LLC, St. Louis, Missouri 63144-2530, US, 101339274	2019-02-27	2012-03-20
EP2790734B1	PRODRUGS OF SECONDARY AMINE COMPOUNDS	The present invention relates to compounds of Formula (I).	1. A compound selected from: and wherein: R 1 is -C(O)OC(R 4)(R 5)-OC(O)(G 12) m R 6 ; wherein each R 4 and R 5 is independently selected from hydrogen, C 1 -C 3 alkyl, aryl or substituted aryl; preferably, hydrogen or methyl; G 12 is selected from absent, NH, CH 2 , -S- or -O-; m is 0 or 1; and, R 6 is selected from C 13 -C 26 -alkyl, substituted C 13 -C 26 -alkyl, C 13 -C 26 -alkenyl, substituted C 13 -C 26 -alkenyl, C 13 -C 26 -alkynyl, substituted C 13 -C 26 -alkynyl, C 13 -C 26 -cycloalkyl, and substituted C 13 -C 26 -cycloalkyl, aryl-C 13 -C 26 -alkyl, substituted aryl-C 13 -C 26 -alkyl, heteroaryl-C 13 -C 26 -alkyl, substituted heteroaryl-C 13 -C 26 -alkyl; optionally substituted C 13 -C 26 -alkylaryl, optionally substituted C 13 -C 26 -alkenylaryl and optionally substituted C 13 -C 26 -alkynylaryl; or a pharmaceutically acceptable salt thereof. | 10. A compound selected from	Alkermes Pharma Ireland Limited, Dublin 4, IE, 101328997	2019-02-20	2011-12-15

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			Table 4 1. 2. 3. 4. 5. 6. 7. 8. 9. 16. 17. 18. 19. 20. 21. 22. 23. 24. 31. 32. 33. 34. 35. 36. 55. 56. 57. 58. 59. 60. 61. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 141. 142. 143. 144. 145. 146. or a pharmaceutically acceptable salt thereof.			
EP2768537B1	ACRYLIC POLYMER FORMULATIONS	Disclosed herein are oral solid dosage forms comprising purified neutral acrylic polymer, methods of treating a disease or condition using the same, and methods of preparing the same.	1. An oral solid dosage form comprising a purified neutral acrylic polymer and a prophylactically or therapeutically effective amount of an opioid agonist, wherein the purified neutral acrylic polymer is obtainable by drying a dispersion comprising a neutral acrylic polymer and comprises 70 - 100 % (w/w) of neutral acrylic polymer, 0 - 10 % (w/w) of water, 0 - 5 % (w/w) of organic solvents, 0 - 2 % (w/w) of emulsifiers and 0 - 5 % (w/w) of further ingredients selected from the group consisting of polymers, poloxamers, bulking agents, release modifying agents, retardants, plasticizers, stabilizers, diluents, fillers, lubricants, binders, granulating aids, colorants, flavorants and glidants, wherein said neutral acrylic polymer is a poly(meth)acrylate which does not contain free acid groups, amino groups or quaternary ammonium groups, wherein the oral solid dosage form comprises greater than about 50% (w/w) of the purified neutral acrylic polymer, and wherein the dosage form further comprises polyethylene oxide and/or a non-ionic triblock copolymer composed of a central hydrophobic chain of polyoxypropylene flanked by two hydrophilic chains of polyoxyethylene.	Purdue Pharma LP, Stamford, CT 06901-3431, US, 101071012	2019-02-20	2011-10-18
EP2630956B1	SUSTAINED-RELEASE PELLETS CONTAINING TACROLIMUS AS AN ACTIVE INGREDIENT	The present invention relates to sustained-release pellets containing tacrolimus as an active ingredient. The sustained-release pellets of the present invention have multiple layers of hydroxypropyl methylcellulose, and may control the release of drugs by specific contents of hydroxypropyl methylcellulose and SureleaseTM, thus rendering the dissolution rate thereof uniform and stable, and enabling the dissolution rate to be adjusted as desired. The entire process for preparing the pellets of the present invention is carried out in a single fluidized-bed granulator, and therefore the preparation process is simplified and the time required for preparation is shortened while obtaining sustained-release pellets having uniform particle size distribution and contents. The sustained-release pellets of the present invention may have medicinal effects that last up to 24 hours, and therefore may be administered just once a day, thus improving patient compliance. Therefore, the pellets of the present invention may be effectively used in an orally administered pellet formulation containing tacrolimus as an active ingredient.	1. Sustained-release pellets which contain tacrolimus as an active ingredient and are comprised of; - pharmacological active ingredient layer (B1) containing tacrolimus as a main ingredient and hydroxypropyl methylcellulose as a binder around the core (A); - primary pharmacological inactive ingredient layer (C1) surrounding the said pharmacological active ingredient layer and containing hydroxypropyl methylcellulose; - sustained-release layer (D) surrounding the said primary pharmacological inactive ingredient layer, and containing Surelease™ (SURELEASE NG E-7-19050; solid) and hydroxypropyl methylcellulose; - secondary pharmacological inactive ingredient layer (C2) surrounding the said sustained-release layer, and containing hydroxypropyl methylcellulose; and - initial release membrane layer (B2) surrounding the said secondary pharmacological inactive ingredient layer and containing tacrolimus and hydroxypropyl methylcellulose; - characterized in that the weight ratio of tacrolimus : hydroxypropyl methylcellulose : Surelease™ (SURELEASE NG E-7-19050; solids) in the said pellets is 1 : 10-15 : 3.6-4.8.	Lee Hee-Yub, Suwon-si, Gyeonggi-do 441-744, KR, 101311227 | Reyon Pharmaceuticals Co. Ltd, Seoul 06176, KR, 101787577	2019-02-27	2010-10-19
EP3146960B1	COMPOSITIONS COMPRISING BUPRENORPHINE	This disclosure relates to a buprenorphine sustained release delivery system for treatment of conditions ameliorated by buprenorphine compounds. The sustained release delivery system includes a flowable composition containing a	1. A composition comprising: (i) suspension of 5 - 20 wt% of buprenorphine in water; (ii) a polyethylene glycol (PEG) polymer, and (iii) a non-ionic surfactant selected from the group consisting of Tween 20, Tween 80, or a combination thereof, wherein: • the buprenorphine is present as the free base (unprotonated)	Indivior UK Limited, Slough, Berkshire SL1 3UH, GB, 101542137	2019-02-20	2010-06-08

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		suspension of buprenorphine, a metabolite, or a prodrug thereof.	form; • the buprenorphine is in particulate form with an average particle size of less than 50 µm ; and • the composition does not comprise a polylactide or polyglycolide polymer or mixture thereof; for use in the treatment of opioid dependence, wherein the composition is administered subcutaneously.			
EP3034072B1	CONTROLLED-RELEASE OPHTHALMIC VEHICLES	The present invention relates to an ophthalmically acceptable vehicle, comprising: an aqueous suspension having a first viscosity, said suspension comprising from 0.1% to 6.5% by weight, based on the total weight of the suspension, of a carboxyl-containing polymer prepared by polymerizing one or more carboxyl-containing monoethylenically unsaturated monomers and less than 5% by weight of a cross-linking agent, said weight percentages of monomers being based on the total weight of monomers polymerized, said carboxyl-containing polymer having average particle size of not more than about 50 µm in equivalent spherical diameter, wherein the carboxy-containing polymer is polycarbophil, and a sufficient amount of a second polymer allowing said carboxyl-containing polymer to remain suspended, wherein upon contact with tear fluid, said vehicle gels to a second viscosity which is greater than the first viscosity, wherein the second polymer is a cationic chitosan and wherein said first viscosity of the aqueous suspension is in a range between 1, 000 to about 30, 000 cps as measured at room temperature of about 25 °C using a Brookfield Digital LVT Viscometer equipped with a number 25 spindle and a 13R small sample adapter at 12 rpm.	1. An ophthalmically acceptable vehicle, comprising: an aqueous suspension having a first viscosity, said suspension comprising from 0.1% to 6.5% by weight, based on the total weight of the suspension, of a carboxyl-containing polymer prepared by polymerizing one or more carboxyl-containing monoethylenically unsaturated monomers and less than 5% by weight of a cross-linking agent, said weight percentages of monomers being based on the total weight of monomers polymerized, said carboxyl-containing polymer having average particle size of not more than about 50 µm in equivalent spherical diameter, wherein the carboxy-containing polymer is polycarbophil, and a sufficient amount of a second polymer allowing said carboxyl-containing polymer to remain suspended, wherein upon contact with tear fluid, said vehicle gels to a second viscosity which is greater than the first viscosity, wherein the second polymer is a cationic chitosan in a range from between 0.01% to 0.5% by weight dissolved in the aqueous suspension which increases the viscosity of the aqueous suspension and wherein said first viscosity of the aqueous suspension is in a range between 1 to about 30 Pa·s (1, 000 to about 30, 000 cps) as measured at room temperature of about 25 °C using a Brookfield Digital LVT Viscometer equipped with a number 25 spindle and a 13R small sample adapter at 12 rpm.	Sun Pharma Global FZE, Sharjah, AE, 101771613	2019-02-20	2009-03-05
EP2735338B1	PHARMACEUTICAL COMBINATION OF 3-(3-DIMETHYLAMINO-1-ETHYL-2-METHYL-PROPYL)-PHENOL AND PREGABALIN OR GABAPENTIN	The present invention relates to a combination comprising as components (a) at least one 3-(3-Dimethylamino-1-ethyl-2-methyl-propyl)-phenol compound, and (b) at least one antiepileptic selected from pregabalin and gabapentin, a pharmaceutical formulation and a dosage form comprising said combination as well as a method of treating pain, e.g. neuropathic pain, wherein components (a) and (b) are administered simultaneously or sequentially to a mammal, whereby component (a) may be administered before or after component (b) and whereby components (a) or (b) are administered to the mammal either via the same or a different pathway of administration.	1. A combination comprising as component(s): (a) (1R, 2R)-3-(3-Dimethylamino-1-ethyl-2-methyl-propyl)-phenol of formula (I'), or an acid addition salt thereof, and (b) at least one antiepileptic selected from the group consisting of pregabalin and gabapentin, with the proviso that (1R, 2R)-3-(3-Dimethylamino-1-ethyl-2-methyl-propyl)-phenol of formula (I') is not a slow release tapentadol.	Grünenthal GmbH, 52078 Aachen, DE, 100133822	2019-02-06	2008-09-05
EP3031457B1	MEDICAMENT COMPRISING PILOCARPINE AND BRIMONIDINE	A medicament for topical administration to a human or animal eye comprises at least two pharmacologically active agents. One of the active agents is a parasympathetic agonist, such as pilocarpine, and the other active agent is either a sympathetic antagonist such as dapiprazole or thymoxamine, or a sympathetic agonist such as brimonidine or iopidine. The medicament is preferably in the form of a liquid composition, such as eye drops, or a gel or ointment and may comprise a slow-release composition. The medicament acts to improve visual acuity for a period of several hours,	1. A use of a combination of a first pharmacologically active agent comprising pilocarpine and a second pharmacologically active agent comprising brimonidine in the manufacture of a medicament adapted for topical application to a human or animal eye in order to improve visual acuity in one or more of presbyopia, myopia, hypermetropia, emmetropia and astigmatism, and/or to improve night or low-light vision. | 3. A use of a combination of pharmacologically active agents as claimed in either claim 1 or claim 2, characterised in that the medicament comprises a slow release composition. | 7. A use of a combination of	Presbyopia Treatments Limited, Caterham, Surrey CR3 5TP, GB, 101567367	2019-02-06	2007-12-15

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		and may be beneficial in cases of presbyopia, myopia, hypermetropia, astigmatism and/or impaired night vision.	pharmacologically active agents as claimed in either claim 5 or claim 6, characterised in that the medicament comprises no more than 0.5% pilocarpine.			
EP2175978B1	COLLAGEN-BASED MICROSPHERES AND METHODS OF PREPARATION AND USE THEREOF	A method of manufacture of ECM microparticles incorporating bioactive molecules for drug delivery has been developed, using a modified emulsification method or a water-in-oil-phase-separation method. The microspheres are photochemically crosslinked to control the release of the bioactive molecules for better drug delivery usage without compromising the biocompatibility of the crosslinked structures. The method uses mild fabrication conditions and simple processes, no toxic chemical crosslinking reagent, which may cause cytotoxicity and calcification after implantation, no organic solvents, which may reduce drug availability and bioactivity, and no vigorous stirring action, which may fragmentize material with poor shape and mechanical stability and thus destabilize the emulsion. The resulting microparticles or microspheres are of controlled size, controlled release, highly biocompatible, and useful for drug delivery as well as cell culture.	1. A method for preparing natural collagen-based microspheres, comprising providing an aqueous solution of collagen; initiating the sol-gel transition of the collagen to form an aqueous gelling mixture, wherein the sol-gel transition is initiated by polymerization, precipitation or aggregation; decelerating the sol-gel transition process by controlling the pH, the temperature, the ionic strength, or the kinetic movement of the collagen mixtures; incorporating therapeutic, prophylactic or diagnostic molecules selected from the group consisting of peptides, polypeptides and proteins into the aqueous gelling mixture; mixing the aqueous gelling mixture with an oil phase selected from the group consisting of vegetable oils such as olive oil or corn oil, organic oils such as paraffin oil, synthetic oils such as silicone oil and mixtures thereof with agitation to form a water-in-oil emulsion; accelerating the sol-gel transition process; and separating the solid microspheres from the oil phase and the aqueous phase, further comprising photochemically crosslinking the microspheres to reduce the initial burst effect or control the release of the molecules from the microspheres.	The University of Hong Kong, Hong Kong, CN, 100237680	2019-02-20	2007-07-06
EP1607088B1	CONTROLLED RELEASE COMPOSITION	It is intended to provide a controlled release composition in which the release of its active ingredient (a proton pump inhibitor) is controlled in two or more steps with different release speeds. This composition, which comprises 1) a release-controlling part A capable of controlling the release speed of the active ingredient at a definite level, and 2) a release-controlling part B capable of controlling the release speed of the active ingredient at a definite level which is lower than the release speed in the release-controlling part A, optionally together with 3) a release-controlling part C capable of controlling the release speed of the active ingredient at a definite level which is higher than the release speed in the release-controlling part B, if necessary, is characterized in that the release of the active ingredient in the release-controlling part B is first made followed by the release of the active ingredient in the release-controlling part A (in the case of having the release-controlling part C, the release of the active ingredient in the release-controlling part C is first made followed by the release of the active ingredient in the release-controlling part B).	1. A controlled release composition showing release of an active ingredient controlled in two or more steps at different release rates, which comprises 1) a release-controlled part A, which is a sustained-release matrix comprising a proton pump inhibitor as an active ingredient and a hydrophilic polymer, which is capable of controlling release of the active ingredient to occur at a predetermined rate; and 2) a release-controlled part B, which is a sustained-release matrix comprising a proton pump inhibitor as an active ingredient and a hydrophilic polymer, which is capable of controlling release of the active ingredient to occur at a predetermined rate lower than the release rate of the release-controlled part A; wherein (i) the proton pump inhibitors contained in the release-controlled parts A and B are the same or different and each is a compound represented by the following formula (Ia): wherein ring A is a benzene ring, R 1 is a C 1-3 alkyl group, R 2 is an optionally halogenated C 1-3 alkoxy group, R 3 is a hydrogen atom and R 4 is a hydrogen atom or an optionally halogenated C 1-3 alkoxy group, or a salt thereof or an optically active form thereof, (ii) the release-controlled part A is coated with the release-controlled part B, and (iii) the release of the active ingredient from the release-controlled part B precedes the release of the active ingredient from the release-controlled part A.	Takeda Pharmaceutical Company Limited, Osaka-shi, Osaka 541-0045, JP, 100231971	2019-02-27	2003-03-17