CLAIMS

1. Peptide with general formula (I)

$$R_1\text{-}AA\text{-}R_2$$

(I)

its stereoisomers, mixtures thereof, and its cosmetically and pharmaceutically acceptable salts, **wherein**

AA is a sequence of 3 to 40 adjacent amino acids contained in the amino acid sequence SEQ ID No. 2;

R_1 is selected from the group consisting of H, substituted or non-substituted non-cyclic aliphatic group, substituted or non-substituted alicyclyl, substituted or non-substituted heterocyclyl, substituted or non-substituted heteroarylalkyl, substituted or non-substituted aryl, substituted or non-substituted aralkyl and R_5-C(O)-; and

R_2 is selected from the group consisting of -NR_3R_4, -OR_3 and -SR_3, wherein R_3 and R_4 are selected independently from the group consisting of H, substituted or non-substituted non-cyclic aliphatic group, substituted or non-substituted alicyclyl, substituted or non-substituted heterocyclyl, substituted or non-substituted heteroarylalkyl, substituted or non-substituted aryl and substituted or non-substituted aralkyl; and

R_5 is selected from the group consisting of H, substituted or non-substituted non-cyclic aliphatic group, substituted or non-substituted alicyclyl, substituted or non-substituted aryl, substituted or non-substituted aralkyl, substituted or non-substituted heterocyclyl and substituted or non-substituted heteroarylalkyl,

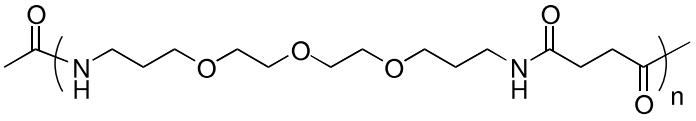
for the treatment of pain and/or inflammation.

2. Peptide according to claim 1, **wherein** R_1 is H, substituted or non-substituted non-cyclic aliphatic group of C_2 to C_{24}, substituted or non-substituted alicyclyl group of C_2 to C_{24}, or R_5-C(O)-, wherein R_5 is a substituted or non-substituted non-cyclic aliphatic group of C_1 to C_{24}, or a substituted or non-substituted alicyclyl group of C_1 to C_{24}.

3. Peptide according to claim 2, **wherein** R1 is selected from the group consisting of H, acetyl, *tert*-butanoyl, hexanoyl, 2-methylhexanoyl, cyclohexancarboxyl, octanoyl, decanoyl, lauroyl, miristoyl, palmitoyl, stearoyl, oleoyl and linoleoyl.

4. Peptide according to claim 1, **wherein** R1 is a polyethylene glycol polymer.

5. Peptide according to claim 4, **wherein** the polyethylene glycol polymer is



wherein n can range between 1 and 100.

6. Peptide according to claim 1, **wherein** R_2 is $-NR_3R_4$ or $-OR_3$, wherein R_3 and R_4 are selected independently from the group consisting of H, substituted or non-substituted non-cyclic aliphatic group of C_1 to C_{24} and substituted or non-substituted alicyclyl group of C_1 to C_{24}.

7. Peptide according to claim 6, **wherein** R_3 and R_4 are selected from the group consisting of H, methyl, ethyl, hexyl, dodecyl and hexadecyl.

8. Peptide according to claim 1, **wherein** AA is a sequence of adjacent amino acids contained in a sequence selected from the group consisting of SEQ ID No.4, SEQ ID No.5, SEQ ID No.6, SEQ ID No.7, SEQ ID No.8, SEQ ID No.9, SEQ ID No.10, SEQ ID No.11, SEQ ID No.12, SEQ ID No.13, SEQ ID No.14, SEQ ID No.15, SEQ ID No. 16, SEQ ID No.17, SEQ ID No.18, SEQ ID No.19, SEQ ID No.20, SEQ ID No.21, SEQ ID No.22, SEQ ID No.23, SEQ ID No.24, SEQ ID No.25, SEQ ID No.26 and SEQ ID No.27.

9. Peptide according to any one of claims 1 to 8, **wherein** the peptide with general formula (I), its stereoisomers, mixtures thereof, or its cosmetically or pharmaceutically acceptable salts, is incorporated into a delivery or a sustained release system selected from the group consisting of liposomes, millicapsules, microcapsules, nanocapsules, sponges, vesicles, micelles, millispheres, microspheres, nanospheres, lipospheres, microemulsions, nanoemulsions, milliparticles, microparticles and nanoparticles.

10. Peptide according to any one of claims 1 to 9, **which** is adsorbed on an organic polymer or solid mineral carrier selected from a group consisting of talc, bentonite, silica, starch or maltodextrin.

11. Peptide according to any one of claims 1 to 10, **which** is contained in a formulation selected from the group consisting of creams, multiple emulsions, anhydrous compositions, aqueous dispersions, oils, milks, balms, foams, lotions, gels, hydroalcoholic solutions, liniments, sera, soaps, shampoos, unguents, mousses, ointments, powders, bars, pencils, sprays and aerosols.

12. Peptide according to any one of claims 1 to 11, **which** is incorporated into a fabric, a non-woven fabric or a medical device.

13. Peptide according to any one of claims 1 to 12, **which** is contained in a composition comprising an effective amount of at least one active ingredient selected from the group consisting of an antioxidant agent, a NO-synthase inhibitor, a skin relaxing agent, an anti-inflammatory agent, an analgesic agent, an antimicrobial agent, an antifungal agent, or mixtures thereof.

14. Peptide according to any one of claims 1 to 13, **which** is administered by topical, enteral or parenteral route.

15. Peptide according to claim 1, **wherein** the pain and/or inflammation are selected from the group consisting of neuropathic pain, inflammatory pain, visceral pain, abdominal pain, pain of the digestive system, pain of the respiratory system, pain of the urogenital system, pain of the endocrine system, heart pain, pancreatic pain, intestinal pain, stomach pain, spleen pain, blood vessel pain, irritable bowel syndrome, tension headache pain, headache associated with sinusitis, migraine, eye pain, dry eye syndrome, post-operative pain, post-operative pain due to surgical incisions, post-operative pain due to the insertion of implants in bone, post-operative pain due to bone replacement, post-operative pain due to infection, pain due to cancer, pain due to bone cancer, pain associated with benign bone tumors, pain associated with osteoid osteoma, pain associated with osteoblastomas, pain due to cancer treatment, musculoskeletal pain, fibromyalgia, nerve pain, neck pain associated with cervical dystonia, back pain, lumbago, sciatica, neurogenic inflammation, skin irritation, sensitive skin, atopic dermatitis, contact dermatitis, diaper dermatitis, eczema, arthritis, rheumatoid arthritis, osteoarthritis, post-herpetic neuralgia, peripheral neuropathies, phantom pain, allodynia, pain due to carpal tunnel syndrome, burning pain, paresthesia, facial pain, trigeminal neuralgia, neuropathic pain due to diabetes, pain associated with tattooing or tattoo removal, pain due to bunions, testicular pain, myofascial pain, urinary bladder pain, urinary tract pain, vulvar pain, vaginal pain, scrotal pain, perineal pain, pelvic pain, pain or skin irritation after surgery, after

treatment with pulsed light therapy (IPL, Intense Pulse Light), after treatment with pulsed monochromatic light therapy (laser), after treatment with chemical exfoliating agents or after overexposure to aggressive external agents.

CLAIMS

1. Pharmaceutical composition comprising at least one peptide selected from the group consisting of:

Ac-LESTRRMLQLVEE-NH_2

Palm-LESTRRMLQLVEE-NH_2

Ac-EEMQRR-NH_2

Palm-EEMQRR-NH_2

Ac-PEG_1-EEMQRR-NH_2

Ac-PEG_2-EEMQRR-NH_2

Ac-PEG_3-EEMQRR-NH_2

Ac-PEG_4-EEMQRR-NH_2

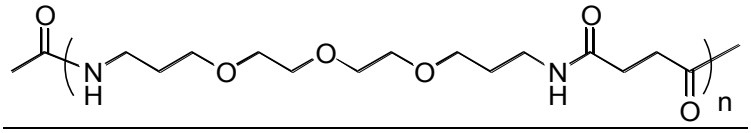
Ac-PEG_5-EEMQRR-NH_2

Ac-EEMQRRA-NH_2

Ac-ELEEMQRRADQLA-NH_2

Palm-ELEEMQRRADQLA-NH_2

its stereoisomers, mixtures thereof, and its pharmaceutically acceptable salts, **wherein** Ac-PEG_n- is



and n can range between 1 and 5;

for the treatment of inflammation.

2. Pharmaceutical composition comprising at least one peptide selected from the group consisting of:

Palm-LESTRRMLQLVEE-NH_2

Ac-EEMQRR-NH_2

Palm-EEMQRR-NH_2

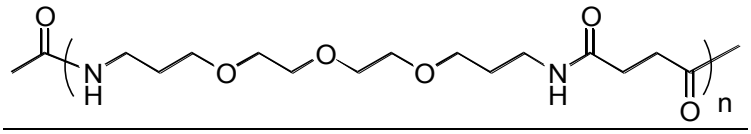
Ac-PEG_1-EEMQRR-NH_2

Ac-PEG_2-EEMQRR-NH_2

Ac-PEG_3-EEMQRR-NH_2

Palm-ELEEMQRRADQLA-NH_2

its stereoisomers, mixtures thereof, and its pharmaceutically acceptable salts, **wherein** Ac-PEG_n- is



and n can range between 1 and 3;
for the treatment of pain.

3. Composition according to any one of claims 1 or 2, **wherein** the peptide is incorporated into a delivery or a sustained release system selected from the group consisting of liposomes, millicapsules, microcapsules, nanocapsules, sponges, vesicles, micelles, millispheres, microspheres, nanospheres, lipospheres, microemulsions, nanoemulsions, milliparticles, microparticles and nanoparticles.

4 Composition according to any one of claims 1 to 3, **wherein** the peptide is adsorbed on an organic polymer or solid mineral carrier selected from a group consisting of talc, bentonite, silica, starch or maltodextrin.

5. Composition according to any one of claims 1 to 4, **which** presents a formulation selected from the group consisting of creams, multiple emulsions, anhydrous compositions, aqueous dispersions, oils, milks, balms, foams, lotions, gels, hydroalcoholic solutions, liniments, sera, soaps, shampoos, unguents, mousses, ointments, powders, bars, pencils, sprays and aerosols.

6. Composition according to any one of claims 1 to 5, **wherein** the peptide is incorporated into a fabric, a non-woven fabric or a medical device.

7. Composition according to any one of claims 1 to 6, **which** further comprises an effective amount of at least one active ingredient selected from the group consisting of an antioxidant agent, a NO-synthase inhibitor, a skin relaxing agent, an anti-inflammatory agent, an analgesic agent, an antimicrobial agent, an antifungal agent, or mixtures thereof.

8. Composition according to any one of claims 1 to 7, **which** is administered by topical, enteral or parenteral route.

9. Composition according to any one of claims 1 to 2, **wherein** the pain or inflammation are selected from the group consisting of neuropathic pain, inflammatory pain, visceral pain, abdominal pain, pain of the digestive system, pain of the respiratory system, pain of the urogenital system, pain of the endocrine system, heart pain, pancreatic pain, intestinal pain, stomach pain,

spleen pain, blood vessel pain, irritable bowel syndrome, tension headache pain, headache associated with sinusitis, migraine, eye pain, dry eye syndrome, post-operative pain, post-operative pain due to surgical incisions, post-operative pain due to the insertion of implants in bone, post-operative pain due to bone replacement, post-operative pain due to infection, pain due to cancer, pain due to bone cancer, pain associated with benign bone tumors, pain associated with osteoid osteoma, pain associated with osteoblastomas, pain due to cancer treatment, musculoskeletal pain, fibromyalgia, nerve pain, neck pain associated with cervical dystonia, back pain, lumbago, sciatica, neurogenic inflammation, skin irritation, sensitive skin, atopic dermatitis, contact dermatitis, diaper dermatitis, eczema, arthritis, rheumatoid arthritis, osteoarthritis, post-herpetic neuralgia, peripheral neuropathies, phantom pain, allodynia, pain due to carpal tunnel syndrome, burning pain, paresthesia, facial pain, trigeminal neuralgia, neuropathic pain due to diabetes, pain associated with tattooing or tattoo removal, pain due to bunions, testicular pain, myofascial pain, urinary bladder pain, urinary tract pain, vulvar pain, vaginal pain, scrotal pain, perineal pain, pelvic pain, pain or skin irritation after surgery, after treatment with pulsed light therapy (IPL, Intense Pulse Light), after treatment with pulsed monochromatic light therapy (laser), after treatment with chemical exfoliating agents or after overexposure to aggressive external agents.