**CLAIMS**

**1.** An extracellular vesicle (EV) loaded with a panel of miRNAs or with nucleic acid encoding the panel of miRNAs, wherein the panel of miRNAs comprises miR-16-5p, miR-23a-5p, miR-125b-5p, miR-145-5p, miR-146a-3p, miR-181c-5p, miR-218-5p, miR-495-3p, let-7b-5p, and miR-885-5p, wherein the EV is produced from a stem cell of mesenchymal origin modified to overexpress miR-885-5p as compared to a wild-type cell of the same type, wherein the EV selectively migrates to tumor tissue as compared to healthy tissue in a mammal.

**2.** The EV of claim 1, wherein the panel further comprises one or more miRNAs selected from the group consisting of miR-30a-5p, miR-30b-5p, miR-30c-5p, miR-30d-5p, miR-30e-5p, miR-194-5p, miR-302a-3p, miR-302a-5p, miR-335-3p, miR-335-5p, miR-367-3p, and miR-373-3p.

**3.** The EV of claim 1, wherein the panel comprises miR-16-5p, miR-23a-5p, miR-125b-5p, miR-145-5p, miR-146a-3p, miR-181c-5p, miR-218-5p, miR-495-3p, let-7b-5p, miR-30a-5p, miR-30b-5p, miR-30c-5p, miR-30d-5p, miR-30e-5p, miR-194-5p, miR-302a-3p, miR-302a-5p, miR-335-3p, miR-335-5p, miR-367-3p, miR-373-3p, and miR-885-5p.

**4.** The EV of claim 1, wherein the panel comprises naturally occurring miRNAs and synthetically overexpressed miRNAs, wherein the synthetically overexpressed miRNAs are synthetic premiRs, mature miRs, antimiRs or *de novo* induced miRs.

**5.** The EV of claim 1, wherein the stem cells are umbilical cord, Wharton's Jelly, blood, cord blood or bone marrow stem cells.

**6.** The EV of claim 1, wherein the EV have a size range of 10 nm to 500 nm.

**7.** The EV of claim 1, wherein the EV comprise P-selectin, Integrin beta-1, Vascular cell adhesion protein 1, Annexins, Tumor susceptibility gene 101 protein, Hsp70-binding protein, CD9, CD29, CD63, CD73, CD81, and CD90.

**8.** The EV of claim 1, wherein the expression of miR-885-5p in the stem cell of mesenchymal origin has been up upregulated via transfection or *de novo* induction.

**9.** Use of the EV of claim 1, in the manufacture of a medicament for treating LCP-1 positive cancer in a subject.

**10.** The use according to claim 9, wherein the EV further comprises one or more additional miRNAs selected from the group consisting of miR-30a-5p, miR-30b-5p, miR-30c-5p, miR-30d-5p, miR-30e-5p, miR-194-5p, miR-302a-3p, miR-302a-5p, miR-335-3p, miR-335-5p, miR-367-3p, miR-373-3p, and miR-885-5p and wherein one or more additional miRNAs are chosen according to cancer type and disease staging based on diagnostic profiling of patients.

**11.** The use according to claim 9, wherein the cells of the LCP-1 positive cancer overexpress one or more proteins selected from the group consisting of Protein argonaute-2, Proto-oncogene c-Akt, Annexin A3, Amyloid-beta A4 protein, Apoptosis regulator Bcl-2, Bcl-2-associated transcription factor 1, Bcl-2-like protein 2, Baculoviral IAP repeat-containing protein 5, Bone morphogenetic protein 1, cancer susceptibility candidate 7, G1/S-specific cyclin-D1, CD44 antigen, Cadherin-2, Cadherin-11, Cyclin-dependent kinase 2, Cyclin-dependent kinase inhibitor p27, CCAAT/enhancer-binding protein alpha, Cytochrome c oxidase subunit 2, Catenin beta-1, C-X-C chemokine receptor type 4, Dickkopf-related protein 1, Epidermal growth factor receptor, Fatty acid synthase, High mobility group protein HMGI-C, Insulin-like growth factor 1 receptor, Insulin-like growth factor 2 mRNA-binding protein 2, Transcription factor AP-1, Mitogen-activated protein kinase kinase kinase kinase 4, Induced myeloid leukemia cell differentiation protein Mcl-1, DNA replication licensing factor MCM5, E3 ubiquitin-protein ligase Mdm2, 72 kDa type IV collagenase, Matrix metalloproteinase-9, Metastasis-associated protein MTA3, Mucin-13, Nuclear factor NF-kappa-B p105 subunit, Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit alpha isoform, Urokinase plasminogen activator surface receptor, Tumor necrosis factor ligand superfamily member 11, Ras GTPase-activating protein 1, Roundabout homolog 1, Slit homolog 2 protein, Zinc finger protein SNAI2, Mothers against decapentaplegic homolog 3, Zinc finger protein SNAI1, Transcription factor SOX-2-OT, Transcription factor Sp1, TGF-beta receptor type-2, Transforming growth factor beta-1, Vascular endothelial growth factor A, and Proto-oncogene Wnt-1.

**12.** The use according to claim 9, wherein the LCP-1 positive cancer is selected from the group consisting of breast cancer, skin melanoma, uveal melanoma, glioma, head and neck cancer, oral cancer, thyroid cancer, lung cancer, liver cancer, pancreatic cancer, stomach cancer, colorectal cancer, bladder cancer, urothelial cancer, renal cancer, kidney cancer, bone cancer, prostate cancer, testicular cancer, cervical cancer, ovarian cancer, endometrial cancer, and any other cancer type that overexpresses one or more proteins selected from the group consisting of Protein argonaute-2, Proto-oncogene c-Akt, Annexin A3, Amyloid-beta A4 protein, Apoptosis regulator Bcl-2, Bcl-2-associated transcription factor 1, Bcl-2-like protein 2, Baculoviral IAP repeat-containing protein 5, Bone morphogenetic protein 1, cancer susceptibility candidate 7, G1/S-specific cyclin-D1, CD44 antigen, Cadherin-2, Cadherin-11, Cyclin-dependent kinase 2, Cyclin-dependent kinase inhibitor p27, CCAAT/enhancer-binding protein alpha, Cytochrome c oxidase subunit 2, Catenin beta-1, C-X-C chemokine receptor type 4, Dickkopf-related protein 1, Epidermal growth factor receptor, Fatty acid synthase, High mobility group protein HMGI-C, Insulin-like growth factor 1 receptor, Insulin-like growth factor 2 mRNA-binding protein 2, Transcription factor AP-1, Mitogen-activated protein kinase kinase kinase kinase 4, Induced myeloid leukemia cell differentiation protein Mcl-1, DNA replication licensing factor MCM5,

E3 ubiquitin-protein ligase Mdm2, 72 kDa type IV collagenase, Matrix metalloproteinase-9, Metastasis-associated protein MTA3, Mucin-13, Nuclear factor NF-kappa-B p105 subunit, Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit alpha isoform, Urokinase plasminogen activator surface receptor, Tumor necrosis factor ligand superfamily member 11, Ras GTPase-activating protein 1, Roundabout homolog 1, Slit homolog 2 protein, Zinc finger protein SNAI2, Mothers against decapentaplegic homolog 3, Zinc finger protein SNAI1, Transcription factor SOX-2-OT, Transcription factor Sp1, TGF-beta receptor type-2, Transforming growth factor beta-1, Vascular endothelial growth factor A, and Proto-oncogene Wnt-1.

**13.** The use according to claim 9, wherein the LCP-1 positive cancer is breast cancer, colorectal cancer, prostate cancer, or ovarian cancer.

**14.** The use according to claim 9, wherein the subject is selected for administration of the EV via determination of any one or more of LCP-1 positive tumors, LCP-1 phosphorylation state, miR-885-5p negative tumors, miR-885-5p expression, and expression of a combination of the miRNAs and proteins selected from the group consisting of Protein argonaute-2, Proto-oncogene c-Akt, Annexin A3, Amyloid-beta A4 protein, Apoptosis regulator Bcl-2, Bcl-2-associated transcription factor 1, Bcl-2-like protein 2, Baculoviral IAP repeat-containing protein 5, Bone morphogenetic protein 1, cancer susceptibility candidate 7, G1/S-specific cyclin-D1, CD44 antigen, Cadherin-2, Cadherin-11, Cyclin-dependent kinase 2, Cyclin-dependent kinase inhibitor p27, CCAAT/enhancer-binding protein alpha, Cytochrome c oxidase subunit 2, Catenin beta-1, C-X-C chemokine receptor type 4, Dickkopf-related protein 1, Epidermal growth factor receptor, Fatty acid synthase, High mobility group protein HMGI-C, Insulin-like growth factor 1 receptor, Insulin-like growth factor 2 mRNA-binding protein 2, Transcription factor AP-1, Mitogen-activated protein kinase kinase kinase kinase 4, Induced myeloid leukemia cell differentiation protein Mcl-1, DNA replication licensing factor MCM5, E3 ubiquitin-protein ligase Mdm2, 72 kDa type IV collagenase, Matrix metalloproteinase-9, Metastasis-associated protein MTA3, Mucin-13, Nuclear factor NF-kappa-B p105 subunit, Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit alpha isoform, Urokinase plasminogen activator surface receptor, Tumor necrosis factor ligand superfamily member 11, Ras GTPase-activating protein 1, Roundabout homolog 1, Slit homolog 2 protein, Zinc finger protein SNAI2, Mothers against decapentaplegic homolog 3, Zinc finger protein SNAI1, Transcription factor SOX-2-OT, Transcription factor Sp1, TGF-beta receptor type-2, Transforming growth factor beta-1, Vascular endothelial growth factor A, and Proto-oncogene Wnt-1, in tissue, liquid biopsies, or biofluids.

**15.** The use according to claim 9, wherein the EV is to be administered to the subject either locally or systemically, in liquid or solid form, either orally, intramuscularly or intravenously.

**16.** The use according to claim 9, wherein the EV is to be administered prophylactically or therapeutically as the primary therapeutic approach or in combination with other therapies such as chemotherapy, radiation therapy or other biological therapies.

**17.** The use according to claim 9, wherein the EV, after administration, migrates to a tumor site.

**18.** The use according to claim 17, wherein the tumor site is a primary or a metastatic tumor site.

**19.** The use according to claim 9, wherein the EV, after administration, fuses with the cell membrane of a cancer cell and releases the miRNAs into the cytoplasm of the cancer cell.

**20.** The EV of claim 1, wherein the EV have a size range of 30 nm to 300 nm.