is to provide systems and methods for modifying lymphatic structures and the function or integrity thereof in a body.

[0006a] In one aspect, there is provided a composition, comprising: an ablative agent for performing a treatment within a body of a subject; and an excipient for limiting migration of at least one of the composition and the ablative agent within the body after delivery to the site.

[0006b] In one aspect, there is provided a delivery system, comprising: a delivery tool including a lumen, the lumen forming a fluid coupling between a distal end and a proximal end of the delivery tool; a reservoir for retaining a composition prior to delivery of the composition to a treatment site within a volume of tissue, the reservoir coupled with the proximal end of the delivery tool; an injector coupled to the reservoir, the injector configured to deliver a bolus of the composition into the delivery tool upon activation thereof; and a delivery tip coupled to the lumen, the delivery tip deploy-ably coupled to the delivery tool, shaped and dimensioned so as to penetrate into or bias against the volume of tissue upon deployment from the delivery tool, the delivery tip comprising one or more ports coupled to the lumen, the ports arranged upon the delivery tip so as to access the treatment site; wherein the composition comprises an ablative agent and an excipient for limiting migration of at least one of the composition and the ablative agent after delivery to the treatment site.

[0006c] In one aspect, there is provided a method, comprising: delivering a composition to a tissue site within a volume of tissue; and at least one of monitoring the effect of the composition on an electrophysiological state of a region in the volume of tissue and monitoring the migration of the composition in the region after delivery to the site; wherein the composition comprises an ablative agent for performing a treatment within a body of a subject and an excipient for limiting migration of at least one of the composition and the ablative agent within the body after delivery to the tissue site.

[0007] According to one aspect, there is provided an ablative composition for treatment of a site within a body of a subject including an ablative agent in accordance with the present disclosure for performing the treatment, and an excipient in accordance with the present disclosure for limiting migration of the composition and/or the ablative agent within the body after delivery to the site.

[0008] In aspects, the composition may include one or more components each in accordance with the present disclosure to facilitate the treatment, the delivery, the storage, the retention, and/or the stability of the composition.

[0009] In aspects, the ablative agent may include a neurotoxin, a cytotoxin, ethyl alcohol, phenol, botulinum toxin, a hypertonic solution, a non-aqueous solvent, combinations, derivatives,

[0010] analogs, salts, thereof, or the like and the excipient may include a monosaccharide, a disaccharide,

a polysaccharide, a starch, a glucan, a cellulose, combinations, copolymers, derivatives, modifications, analogs, tautomeric forms, stereoisomers, polymorphs, solvates, salts, nano/micro particulates, and metabolites thereof, or the like.

[0011] In aspects, the ablative agent may represent more than 85%, more than 90%, more than 95%, or more than 98% of the composition by mass. In aspects, a solvent may be added to the composition to adjust the low shear viscosity thereof.

[0012] In aspects, the excipient may have an average molecular weight of greater than 1,000, greater than 10,000, greater than 100,000, or greater than 1,000,000, or the like.

[0013] In aspects, the composition may be formulated so as to form a viscous thixotropic gel with a thixotropic index of greater than 1.25, greater than 1.5, greater than 2, or greater than 4, at 37°C (degrees Celsius) and/or a Bingham plastic with a yield strength of greater than 5 Pa (Pascals), greater than 20 Pa, or greater than 100 Pa, at 37°C. In aspects, the composition may form a substantially low viscosity fluid at a temperature between 45 and 80°C, 45 and 60°C, 45 and 55°C, or the like, the low viscosity being less than 4,000cps (centipoises), less than 2000cps, less than 500cps, etc.

[0014] In aspects, the excipient may include hydroxypropyl cellulose (HPC), hydroxypropyl starch (HPS), or modified form thereof, a blend of hydroxypropylcellulose (HPC), hydroxypropyl starch (HPS), or a modified form thereof, with one or more of ethylcellulose (EC), methylcellulose (MC), hydroxyethylcellulose (HEC), hydroxypropylmethylcellulose (HPMC), carboxymethylcellulose (CMC), cellulose gum, cellulose ether, a starch equivalent form, a modified form thereof, or the like.

WHAT IS CLAIMED IS:

1. A composition, comprising:

an ablative agent for performing a treatment within a body of a subject; and

an excipient for limiting migration of at least one of the composition and the ablative agent within the body after delivery to the site.

2. The composition in accordance with claim 1, wherein the ablative agent is a neurotoxin, a cytotoxin, ethyl alcohol, phenol, botulinum toxin, a hypertonic solution, a non-aqueous solvent, combinations thereof, derivatives, analogs, salts thereof; and the excipient is a monosaccharide, a disaccharide, a polysaccharide, a starch, a glucan, a cellulose, combinations, copolymers, derivatives, modifications, analogs, tautomeric forms, stereoisomers, polymorphs, solvates, salts, nano/micro particulates, and metabolites thereof.

3. The composition in accordance with claim 1, wherein the ablative agent represents more than 85% of the composition by mass.

4. The composition in accordance with claim 1, wherein the excipient has an average molecular weight of greater than 1,000 and the composition forms at least one of:

a viscous thixotropic gel with a thixotropic index of greater than 1.25 at 37° Celsius; and

a Bingham plastic with a yield strength of greater than 5 Pascals at 37° Celsius.

5. The composition in accordance with claim 4, wherein the composition forms a low viscosity fluid at a temperature between 45 and 80° Celsius, the low viscosity being less than 4,000 centipoises.

6. The composition in accordance with claim 2, wherein the excipient comprises a blend of hydroxypropylcellulose (HPC) , hydroxypropyl starch (HPS), or a modified form thereof, and one or more of ethylcellulose (EC), methylcellulose (MC), hydroxyethylcellulose (HEC), hydroxypropylmethylcellulose (HPMC), carboxymethylcellulose (CMC), cellulose gum, cellulose ether, a starch equivalent form, or a modified form thereof.

7. The composition in accordance with claim 1, wherein the composition forms a gel-like skin when submerged into an aqueous medium and is substantially soluble in a solution of the active agent.

8. The composition in accordance with claim 1, wherein the ablative agent forms a vehicle for the composition, the viscosity of the composition increasing as the active agent migrates into a volume of tissues surrounding the site, after delivery to the site.

9. The composition in accordance with claim 1, wherein the composition is formulated so as to limit migration of the active agent from an injection site to a distance of less than approximately 3mm from a margin of a bolus formed by the composition after delivery to the site within a timeframe comparable with the delivery of the composition to the site.

10. The composition in accordance with claim 1, further comprising a contrast agent selected from a fluorescent agent, a computed tomography (CT) contrast agent, an iodine-based contrast agent, a magnetic resonance imaging (MRI) contrast agent, or a combination thereof.

11. A delivery system, comprising:

a delivery tool including a lumen, the lumen forming a fluid coupling between a distal end and a proximal end of the delivery tool;

a reservoir for retaining a composition prior to delivery of the composition to a treatment site within a volume of tissue, the reservoir coupled with the proximal end of the delivery tool;

an injector coupled to the reservoir, the injector configured to deliver a bolus of the composition into the delivery tool upon activation thereof; and

a delivery tip coupled to the lumen, the delivery tip deploy-ably coupled to the delivery tool, shaped and dimensioned so as to penetrate into or bias against the volume of tissue upon deployment from the delivery tool, the delivery tip comprising one or more ports coupled to the lumen, the ports arranged upon the delivery tip so as to access the treatment site;

wherein the composition comprises an ablative agent and an excipient for limiting migration of at least one of the composition and the ablative agent after delivery to the treatment site.

12. The delivery system in accordance with claim 11, further comprising a thermal regulating unit coupled to at least one of the lumen and the reservoir, the thermal regulating unit configured to maintain the composition at a predetermined temperature at least one of prior to delivery and during delivery.

13. The delivery system in accordance with claim 11, wherein the ports are arranged along the delivery tip with at least one of a spatially changing density and a spatially changing diameter such that the bolus may be shaped when delivered from the delivery tip.

14. The delivery system in accordance with claim 11, wherein the delivery tip comprises a needle, the needle shaped so as to penetrate into the volume of tissue upon deployment, the ports arranged along the length of the needle.

15. The delivery system in accordance with claim 11, further comprising a balloon coupled with the delivery tip, the balloon coupled to a fluid source so as to be expand-ably deployed during a procedure to interface the delivery tip with the wall of a vessel or the volume of tissue.

16. The delivery system in accordance with claim 11, wherein at least one of the delivery tool and the delivery tip comprises one or more sensing elements or one or more electrodes to interface with the volume of tissue.

17. The delivery system in accordance with claim 11, further comprising a tissue suction element, coupled to the delivery tip, the suction element configured to retain a site against the delivery tip upon activation at least one of before the delivery, during the delivery, and after the delivery.

18. The delivery system in accordance with claim 17, wherein the suction element is configured to draw the site onto the delivery tip upon activation and wherein the delivery tip is arranged within the suction element so as to deliver the bolus into the drawn in site of the tissue.

19. A method, comprising:

delivering a composition to a tissue site within a volume of tissue; and

at least one of monitoring the effect of the composition on an electrophysiological state of a region in the volume of tissue and monitoring the migration of the composition in the region after delivery to the site;

wherein the composition comprises an ablative agent for performing a treatment within a body of a subject and an excipient for limiting migration of at least one of the composition and the ablative agent within the body after delivery to the tissue site.

20. The method in accordance with claim 19, wherein delivering the composition to the tissue site comprises forming a pattern of the composition in the region.

21. The method in accordance with claim 20, wherein the pattern is formed in the shape of a ring around the perimeter of the region, so as to isolate the region from the surrounding volume of tissue.

22. The method in accordance with claim 20, wherein the pattern is formed through deposition of a plurality of boluses at points over a three dimensional path within the volume of tissue.

23. The method in accordance with claim 20, wherein the region includes a tumor and the pattern is formed over the margin of the tumor.

24. The method in accordance with claim 19, wherein delivering the composition to the tissue site comprises:

identifying a branch of an arterial tree that exclusively provides blood flow to a region of an organ coupled to the arterial tree; and

delivering a bolus of the composition into the branch.

25. The method in accordance with claim 24 wherein identifying the branch of the arterial tree comprises performing one or more contrast angiograms in one or more branches of the arterial tree.