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 for performing a treatment within a body of a subject, comprising: an ablative agent comprising ethyl alcohol, wherein the ablative agent represents more than 85% of the composition by mass; and; an excipient for limiting migration of at least one of the composition and the ablative agent within the body after delivery to a tissue site within the body of the subject by modifying the viscosity of the composition, wherein the excipient comprises hydroxypropyl cellulose having an average molecular weight of approximately 1,000,000 or greater; wherein the composition exhibits a change from a first set of properties in a first local environment comprising a lumen of a delivery tool to a second set of properties in a second local environment comprising the tissue site; wherein the first set of properties comprises a first viscosity and the second set of properties comprises a second viscosity, the second viscosity being higher than the first viscosity; and wherein the first viscosity of the composition is less than 100 centipoises (cps) at a first temperature range of 45 to 50°C, and the second viscosity of the composition is greater than 500 cps at a second temperature range of 35 to 40°C.

[0007] Disclosed is 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 embodiments, 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 embodiments, the ablative agent may include a neurotoxin, a cytotoxin, ethyl alcohol, phenol, botulinum toxin, a hypertonic solution, a non-aqueous solvent, combinations, derivatives, 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.

[0010] In embodiments, the ablative agent may represent more than 85%, more than 90%, more than 95%, or more than 98% of the composition by mass. In embodiments, a solvent may be added to the composition to adjust the low shear viscosity thereof.

[0011] In embodiments, 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.

[0012] In embodiments, 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 embodiments, 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.

[0013] In embodiments, 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 for performing a treatment within a body of a subject, comprising:

an ablative agent comprising ethyl alcohol, wherein the ablative agent represents more than 85% of the composition by mass; and;

an excipient for limiting migration of at least one of the composition and the ablative agent within the body after delivery to a tissue site within the body of the subject by modifying the viscosity of the composition, wherein the excipient comprises hydroxypropyl cellulose having an average molecular weight of approximately 1,000,000 or greater;

wherein the composition exhibits a change from a first set of properties in a first local environment comprising a lumen of a delivery tool to a second set of properties in a second local environment comprising the tissue site;

wherein the first set of properties comprises a first viscosity and the second set of properties comprises a second viscosity, the second viscosity being higher than the first viscosity; and

wherein the first viscosity of the composition is less than 100 centipoises (cps) at a first temperature range of 45 to 50°C, and the second viscosity of the composition is greater than 500 cps at a second temperature range of 35 to 40°C.

2. The composition in accordance with claim 1, wherein 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.

3. 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 an active agent, the active agent comprising the ablative agent.

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

5. The composition in accordance with claim 1, wherein the composition is formulated so as to limit migration of an active agent comprising the ablative 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.

6. 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.

7. The composition in accordance with claim 1, further comprising at least one gelator molecule comprising an anion-responsive organogel.

8. The composition in accordance with claim 1, further comprising at least one gelator molecule comprising a benzaldehyde gelator.

9. The composition in accordance with claim 1, wherein the composition in the first local environment forms a stable first fluid state at the first temperature range and the composition in the second local environment forms a second fluid state at the second temperature range.

10. The composition in accordance with claim 1, wherein the excipient further comprises at least one of ethylcellulose and a hydroxyethylcellulose.

11. The composition in accordance with claim 10, wherein the cellulose derivative comprises an ethoxyl content between 45 and 52%.

12. The composition in accordance with claim 10, wherein the cellulose derivative comprises an ethoxyl content between 47 and 49.5%.

13. The composition in accordance with claim 1, wherein:

the first local environment has a pH range of greater than 7.5 or less than 5; and

the second local environment has a pH range of 7-7.4.

14. The composition in accordance with claim 1, further comprising a thermal stabilizing agent to increase a temperature range over which the composition remains thermally stable, the thermal stabilizing agent comprising at least one of an organic liquid, a surfactant, an alcohol and an aqueous glycol.

15. The composition in accordance with claim 14, wherein the temperature range over which the composition remains thermally stable is 10-60°C.

16. The composition in accordance with claim 1, further comprising an electronic or ionic conducting component to be polymerized in place after delivery of the composition to the tissue site, the electronic or ionic conducting component comprising at least one of a conjugated polymer, a salt and a conducting composite.

17. The composition in accordance with claim 1, further comprising at least one of a polymer, gelatin, pectin, xanthan gum, polysaccharide, polyvinyl alcohol, poly (lactic-co-glycolic acid) (PLGA) and ethylene vinyl alcohol (EvOH).

18. The composition in accordance with claim 1, further comprising a curable adhesive to undergo a curing or thermosetting reaction after delivery of the composition to the tissue site, the curable adhesive comprising at least one of a silicone gel adhesive, a polyurethane gel adhesive, an acrylic gel adhesive, a hydrogel adhesive, a hydrocolloid adhesive, a hydrogel adhesive and a fibrin adhesive.

19. The composition in accordance with claim 1, wherein the ablative agent represents more than 90% of the composition by mass.

20. The composition in accordance with claim 1, wherein the ablative agent represents more than 95% of the composition by mass.

21. The composition in accordance with claim 1, wherein the ablative agent represents more than 98% of the composition by mass.