

CLAIMS

What is claimed is:

1. A therapeutic agent delivery device, comprising:
a tubular body including a first end portion, a second end portion, and a lumen extending between the first end portion and the second end portion, wherein an outer surface of the tubular body includes a first opening in communication with the lumen, wherein the first opening is surrounded by a first opening periphery, and wherein the first opening periphery includes a generally circular or oval shape, and the outer surface of the tubular body further includes a ledge extending around ~~a periphery of the first opening periphery, and~~ the ledge extending away from the opening by a first width, wherein a portion of the ledge closest to the second end portion of the tubular body is shaped as an arrowhead having an apex, and wherein a second width of the ledge at the apex is larger than the first width; and
a cap configured to engage the second end portion of the tubular body, wherein the cap includes a central longitudinal axis, a first end having a first cross-sectional dimension, and a second end having a second cross-sectional dimension larger than the first cross-sectional dimension, and wherein the cap further includes a sidewall extending radially outward from the first end to the second end, and wherein the sidewall includes a protrusion.
2. The therapeutic agent delivery device of claim 1, wherein the therapeutic agent delivery device is an auto-injector.
3. The therapeutic agent delivery device of claim 1, wherein the lumen is configured to receive a syringe therein.
4. The therapeutic agent delivery device of claim 3, wherein the syringe includes a volume of the therapeutic agent, and wherein the first opening is configured to permit visualization of the volume of the therapeutic agent.

5. The therapeutic agent delivery device of claim 1, wherein, when the cap is not engaged with the tubular body, the ledge is configured to restrict rolling of the tubular body.

6. The therapeutic agent delivery device of claim 1, wherein, when the cap is engaged with the tubular body, only the protrusion is configured to restrict rolling of the therapeutic agent delivery device.

7. The therapeutic agent delivery device of claim 1, wherein the protrusion includes a plurality of protrusions.

8. The therapeutic agent delivery device of claim 7, wherein each protrusion of the plurality of protrusions is circumferentially spaced from an adjacent protrusion.

9. The therapeutic agent delivery device of claim 7, further comprising a recess disposed between adjacent protrusions.

10. The therapeutic agent delivery device of claim 1, wherein the protrusion includes a first end and a second end, wherein the first end of the protrusion is spaced from the central longitudinal axis of the cap by a first distance, and wherein the second end of the protrusion is spaced from the central longitudinal axis of the cap by a second distance greater than the first distance.

11. The therapeutic agent delivery device of claim 1, wherein the outer surface of the tubular body further includes a second opening disposed diametrically opposite to the first opening.

~~12. A therapeutic agent delivery device, comprising:
a tubular body including a first end portion, a second end portion, and a central longitudinal axis, wherein an outer surface of the tubular body includes a geometric configuration extending away from the central longitudinal axis, a portion of the geometric~~

configuration is shaped as an arrowhead, and the geometric configuration is configured to restrict rolling of the tubular body; and

a cap configured to engage the second end portion of the tubular body, wherein the cap includes a first end including an opening in communication with an interior of the cap, a second end having an end wall, and a sidewall extending radially outward from the first end to the second end, and wherein the sidewall includes a protrusion configured to restrict rolling of the cap.

13. — The therapeutic agent delivery device of claim 12, wherein the outer surface of the tubular body includes a plurality of geometric configurations, wherein each geometric configuration includes a portion shaped as an arrowhead.

14. — The therapeutic agent delivery device of claim 13, wherein the geometric configurations are circumferentially spaced from one another on the outer surface of the tubular body.

15. — The therapeutic agent delivery device of claim 12, wherein the outer surface of the tubular body includes a window, and wherein the geometric configuration surrounds a portion of the window.

16. — The therapeutic agent delivery device of claim 15, wherein the window permits visualization of an interior of the tubular body.

17. — The therapeutic agent delivery device of claim 12, wherein the sidewall includes a plurality of protrusions circumferentially spaced from one another.

18. — The therapeutic agent delivery device of claim 12, wherein the sidewall includes a recess disposed between adjacent protrusions.

~~19. The therapeutic agent delivery device of claim 12, wherein, when the cap is engaged with the tubular body, only the protrusion is configured to restrict rolling of the therapeutic agent delivery device.~~

~~20. The therapeutic agent delivery device of claim 12, wherein, when the cap is not engaged with the tubular body, the ledge is configured to restrict rolling of the tubular body.~~

12. The therapeutic agent delivery device of claim 1, wherein the therapeutic agent delivery device contains dupilumab.

13. The therapeutic agent delivery device of claim 1, wherein a portion of the ledge has a generally hastate configuration.

14. The therapeutic agent delivery device of claim 1, wherein the cap includes a recess having an arrowhead-like shape.