specifically to the ileum of the subject. The present disclosure thus provides more efficient and effective vaccines, and demonstrates their effectiveness in humans.

[0005a] In one aspect, there is disclosed an immunogenic composition for eliciting an immune response in a human comprising: (i) an adenoviral vector encoding an immunogenic polypeptide encompassed by (ii) an agent that directs delivery of the adenoviral vector to the ileum of the human, wherein agent (ii) is an enteric coating that has a threshold pH 5.8-6.8.

[0005b] Another embodiment relates to the immunogenic composition as disclosed herein formulated for oral delivery of an immunogenic composition to the ileum of a human.

[0005c] Another aspect relates to the use of the composition as disclosed herein in the manufacture of a medicament for eliciting an immune response in a human, wherein the immune response is specific for the immunogenic polypeptide encoded by the adenoviral vector.

[0006] Provided herein are immunogenic compositions for eliciting an immune response in a subject comprising: an immunogenic biological agent encompassed by an agent that directs delivery of the immunogenic biological agent to the ileum of the subject. In some embodiments, the subject is a human. In some embodiments, the subject is a non-human animal, *e.g.*, primate, mouse, rat, rabbit, horse, dog, cat, or poultry. In some embodiments, the immunogenic biological agent is selected from an immunogenic polypeptide (*e.g.*, virus like particle, glycoprotein, phosphoprotein), carbohydrate, and lipid.

[0007] In some embodiments, the immunogenic biological agent is an expression vector encoding an immunogenic polypeptide. In some embodiments, the expression vector is a viral vector (*e.g.*, adenoviral, AAV, retroviral, or lentiviral). In some embodiments, the viral vector is attenuated or replication incompetent. In some embodiments, the expression vector comprises a promoter (*e.g.*, CMV, SV40 early or late, β-actin, etc.) operably linked to the sequence encoding the immunogenic polypeptide. In some embodiments, the expression vector further encodes double stranded (dsRNA). In some embodiments, the dsRNA encoding sequence is operably linked to a promoter, *e.g.*, either the same promoter (using an Internal Ribosomal Entry Site (IRES)) or a different promoter as the promoter operably linked to the immunogenic polypeptide encoding sequence.

WHAT IS CLAIMED IS:

1. An immunogenic composition for eliciting an immune response in a human comprising:

(i) an adenoviral vector encoding an immunogenic polypeptide encompassed by (ii) an agent that directs delivery of the adenoviral vector to the ileum of the human, wherein agent (ii) is an enteric coating that has a threshold of pH 5.8-6.8.

2. The immunogenic composition of claim 1, wherein the enteric coating has a threshold pH of 6.0.

3. The immunogenic composition of claim 1 or 2, wherein the enteric coating disintegrates at least 75% compared to its original thickness in 110 minutes at pH 5.8-6.8.

4. The immunogenic composition of any one of the foregoing claims, wherein the enteric coating comprises Poly(methylacylic acid-co-methyl methacrylate) 1:1.

5. The immunogenic composition of any one of the foregoing claims, wherein the enteric coating comprises Eudragit® L-100.

6. The immunogenic composition of any one of the foregoing claims, wherein the enteric coating comprises a mixture of Eudragit® L-100 and Eudragit®L100-55.

7. The immunogenic composition of any one of the foregoing claims, wherein the enteric coating comprises Eudragit® L-100, triethyl citrate, and talc.

8. The immunogenic composition of claim 7, comprising 1-4 parts Eudragit® L-100, 1-2 parts triethyl citrate, and 1-2 parts talc.

9. The immunogenic composition of any one of claims 1-6, wherein the enteric coating comprises a mixture of poly(methacylic acid-co-methyl methacrylate) 1:1 and poly(methacylic acid-co-ethyl acrylate) 1:1.

10. The immunogenic composition of claim 9, wherein the ratio of poly(methacylic acid-co-methyl methacrylate) 1:1 to poly(methacylic acid-co-ethyl acrylate) 1:1 is 1:4 to 4:1.

11. The immunogenic composition of any one of claims 1-3, wherein the enteric coating comprises poly(methacylic acid-co-methyl methacrylate) 1:1 and poly(methacylic acid-co-methyl methacrylate) 1:2.

12. The immunogenic composition of claim 11, wherein the ratio of poly(methacylic acid-co-methyl methacrylate) 1:1 to poly(methacylic acid-co-methyl acrylate) 1:2 is 1:2 to 2:1.

13. The immunogenic composition of any one of claims 1-3, 11, and 12, wherein the enteric coating comprises a mixture of Eudragit® L-100 and Eudragit®S100.

14. The immunogenic composition of any one of claims 11-13, wherein the enteric coating comprises 1 to 4 parts poly(methacylic acid-co-methyl methacrylate) 1:1 and poly(methacylic acid-co-methyl acrylate) 1:2; 1 to 2 parts triethyl citrate; and 1 to 2 parts talc.

15. The immunogenic composition of any one of claims 1-3, wherein the enteric coating comprises a mixture of poly(methacylic acid-co-methyl methacrylate) 1:2 and poly(methacylic acid-co-ethyl acrylate) 1:1.

16. The immunogenic composition of claim 15, wherein the ratio of poly(methacylic acid-co-methyl methacrylate) 1:2 to poly(methacylic acid-co-ethyl acrylate) 1:1 is 1:4 to 4:1.

17. The immunogenic composition of any one of claims 1-3, 15, and 16, wherein the enteric coating comprises a mixture of Eudragit® L-100-55 and Eudragit®S100.

18. The immunogenic composition of any one of claims 15-17, wherein the enteric coating comprises 1 to 4 parts poly(methacylic acid-co-methyl methacrylate) 1:2 and poly(methacylic acid-co-ethyl acrylate) 1:2; 1 to 2 parts triethyl citrate; and 1 to 2 parts talc.

19. The immunogenic composition of any one of the foregoing claims, wherein the adenoviral vector further encodes dsRNA.

20. The immunogenic composition of any one of the foregoing claims, wherein the composition is in the form of a compressed tablet.

21. The immunogenic composition of any one of the foregoing claims, wherein the immunogenic polypeptide is derived from an influenza virus.

22. Use of the immunogenic composition of any one of claims 1-21 in the manufacture of a medicament for eliciting an immune response in a human, wherein the immune response is specific for the immunogenic polypeptide encoded by the adenoviral vector.

23. The use of claim 21, wherein the medicament results in production of neutralizing antibodies by the human.