[0009a] In one aspect, there is provided a method for manufacturing viruses, the method comprising:

growing host cells;

introducing to the host cells a composition comprising media for growing viral cultures comprising one or more ethylene oxide propylene oxide (EO-PO) block copolymers before, during, or after viral infection of the host cells; the one or more EO-PO block copolymers comprising poloxamer 407, poloxamer 403, or a combination thereof, wherein the concentration of the one or more EO-PO block copolymers is from 0.001% to 3.0%(w/v);

introducing viruses to the host cells before, during or after introduction of the composition;

incubating the host cells, the viruses, and the media for a predetermined period;

separating the media from the host cells; and

harvesting the viruses from the media.

[0009b] In another aspect, there is provided a method for manufacturing flaviviruses and/or dengue viruses, the method comprising:

growing host cells to near confluency;

introducing to the host cells a composition comprising media for growing the viral cultures and one or more ethylene oxide propylene oxide (EO-PO) block copolymers before, during, or after viral infection of the host cells; the one or more EO-PO block copolymers comprising poloxamer 407, poloxamer 403, or a combination thereof, wherein the concentration of the one or more EO-PO block copolymers is from 0.001% to 3.0% (w/v);

introducing the flaviviruses and/or dengue viruses to the host cells before, during or after introduction of the composition;

incubating the host cells, the flaviviruses and/or dengue viruses, and the growth media;

separating the media from the host cells; and

harvesting the flaviviruses and/or dengue viruses from the media.

[0009c] In another aspect, there is provided a composition for growing flaviviruses and/or dengue viruses comprising:

a flavivirus and/or a dengue virus culture;

one or more ethylene oxide propylene oxide (EO-PO) block copolymers, the EO-PO block copolymers comprising poloxamer 407, poloxamer 403, or a combination thereof, wherein the concentration of the EO-PO block copolymer is from 0.001% to 3.0% (w/v);

a host cell culture; and

growth media, wherein the EO-PO block copolymers enhance growth for large scale manufacturing of the flaviviruses and/or a dengue virus in the host cell culture.

7. The method of claim 1, wherein the viruses comprise live, attenuated viruses for use in vaccines.

8. The method of claim 1, wherein the viruses are selected from the group consisting of Flavivirus, Togavirus, Coronavirus, Filovirus, Paramyxovirus, Orthomyxovirus, Bunyavirus, Arenavirus, Retrovirus, Hepadnavirus, Pestivirus, Herpes virus, and Poxvirus.

9. The method of claim 1, wherein the viruses are flavivirus viruses.

10. The method of claim 1, wherein the viruses are Poxvirus viruses.

11. The method of claim 1, wherein when harvested, the viral cultures have a titer between about $1x10^6$ pfu/ml to about $1x10^8$ pfu/ml.

12. The method of claim 1, wherein the host cells are in monolayers.

13. The method of claim 1, wherein the host cells comprise host cells grown to confluency at a density of about $1x10^4$ and about $1x10^5$ cells per cm^2.

14. The method of claim 1, wherein the host cells comprise Vero cells (African green monkey Vero cells), LLC-MK2 cells, or C6/36 mosquito cells.

15. The method of claim 1, wherein the EO-PO block copolymer comprises poloxamer 407 and wherein the concentration of the poloxamer 407 is 0.063%, 0.125%, 0.25%, 0.5%, 1.0%, or 2.0%.

16. A method for manufacturing flaviviruses and/or dengue viruses, the method comprising:

growing host cells to near confluency;

introducing to the host cells a composition comprising media for growing the viral cultures and one or more ethylene oxide propylene oxide (EO-PO) block copolymers before, during, or after viral infection of the host cells; the one or more EO-PO block copolymers

24. The method of claim 16, wherein separating the media from the host cells further comprises removing aliquots of the media from the culture and introducing fresh media to the culture for further viral expansion.

25. A composition for growing flaviviruses and/or dengue viruses comprising:

a flavivirus and/or a dengue virus culture;

one or more ethylene oxide propylene oxide (EO-PO) block copolymers, the EO-PO block copolymers comprising poloxamer 407, poloxamer 403, or a combination thereof, wherein the concentration of the EO-PO block copolymer is from 0.001%to 3.0% (w/v);

a host cell culture; and

growth media, wherein the EO-PO block copolymers enhance growth for large scale manufacturing of the flaviviruses and/or a dengue virus in the host cell culture.

26. The composition of claim 25, wherein the flavivirus and/or dengue virus cultures comprises live, attenuated flaviviruses.

27. The composition of claim 25, wherein the flavivirus and/or dengue virus culture comprises chimeric viruses.

28. The composition of claim 25, wherein the flavivirus cultures comprise West Nile viruses, yellow fever viruses, Japanese encephalitis viruses, St. Louis encephalitis viruses, or tick-borne encephalitis viruses.

29. The composition of claim 25, wherein the host cell culture comprises Vero cells (African green monkey Vero cells), LLC-MK2 cells, or C6/36 mosquito cells.

30. The composition of claim 25, wherein the growth media comprises Dulbecco's Modified Eagle Medium (DMEM).

31. The method of claims 1 or 16, wherein harvesting the viruses comprises removing aliquots of media to harvest the viruses.