WHAT IS CLAIMED IS:

1. A conditional replication defective cytomegalovirus (CMV) comprising:

(a) a pentameric gH complex comprising of UL128, UL130, UL131, gH and gL; and

(b) a nucleic acid encoding a fusion protein between an essential protein and a destabilizing protein, wherein the essential protein is selected from the group consisting of IE1/2, UL51, UL52, UL79 and UL84.

2. The conditional replication defective CMV of claim 1, wherein the destabilizing protein is either FKBP or an FKBP derivative, wherein the FKBP derivative is FKBP comprising one or more amino acid substitutions selected from the group consisting of: F15S, V24A, H25R, F36V, E60G, M66T, R71G, D100G, D100N, E102G, K105I and L106P.

3. The conditional replication defective CMV of claim 2, wherein the FKBP derivative is FKBP comprising amino acid substitutions F36V and L106P.

4. The conditional replication defective CMV of any of claims 1-3, wherein the essential protein is IE1/2 or UL51.

~~5. The conditional replication defective CMV of any of claims 1-3, wherein the essential protein is UL51.~~

~~6~~5. The conditional replication defective CMV of any of claims 1-3, wherein the CMV comprises a nucleic acid encoding at least two fusion proteins, wherein the essential proteins in each of the fusion proteins are different.

~~7~~6. The conditional replication defective CMV of claim ~~6~~5, wherein one of the fusion proteins comprises IE1/2 or UL51, or wherein the CMV comprises a first fusion protein comprising IE1/2 and a second fusion protein comprising UL51.

~~8. The conditional replication defective CMV of claim 6, wherein one of the fusion proteins comprises UL51.~~

~~9. The conditional replication defective CMV of claim 6, wherein a first fusion protein comprises IE1/2 and a second fusion protein comprises UL51.~~

~~10~~7. The conditional replication defective CMV of claim ~~9~~6, wherein

(a) the first fusion protein is SEQ ID NO:1 or an amino acid that is at least 95% identical to SEQ ID NO:1; and

(b) the second fusion protein is SEQ ID NO:3 or an amino acid that is at least 95% identical to SEQ ID NO:3.

~~11. The conditional replication defective CMV of claim 10, wherein the first fusion protein is SEQ ID NO:1 and the second fusion protein is SEQ ID NO:3.~~

~~12~~8. The conditional replication defective CMV of claim ~~10~~7, wherein

(a) the first fusion protein is encoded by SEQ ID NO:2 or a nucleic acid that is at least 95% identical to SEQ ID NO:2; and

(b) the second fusion protein is encoded by SEQ ID NO:4 or a nucleic acid that is at least 95% identical to SEQ ID NO:4.

~~13. The conditional replication defective CMV of claim 12, wherein the first fusion protein is encoded by SEQ ID NO:2 and the second fusion protein is encoded by SEQ ID NO:4.~~

~~14. The conditional replication defective CMV of claim 9, wherein the genome of the CMV is SEQ ID NO:14.~~

~~15~~9. A composition comprising the conditional replication defective CMV of any of claims 1-~~14~~8 and a pharmaceutically acceptable carrier.

~~16~~10. The composition of claim ~~15~~9 further comprising an adjuvant.

~~17. The composition of claim 16, wherein the adjuvant is ISCOMATRIX®.~~

~~18~~11. A method of inducing an immune response against CMV in a patient comprising administering to the patient an immunologically effective amount of the composition of any of claims ~~15~~9-~~17~~10.

~~19~~12. The method of claim 18, wherein the immune response is protective immune response in a patient against CMV infection.

~~20. The method of any of claims 18-19, wherein the CMV infection is a primary infection, a recurrent infection or a super-infection.~~

~~21. The method of claim any of claims 18-20, wherein the patient is human.~~

~~22~~13. The method of claim ~~21~~11 or 12, wherein the patient is a human with ~~has~~ weakened immunity.

~~23. The method of claim 22 wherein the patient that has weakened immunity has HIV or AIDS or is a transplant recipient.~~

~~24~~14. The method of claim ~~21~~11 or 12, wherein the patient is a human female of childbearing age.

~~25~~15. Use of a conditional replication defective CMV of any of claims 1-~~14~~8 in the manufacture of a medicament for inducing a protective immune response in a patient against CMV infection.

~~26~~16. The conditional replication defective CMV of any of claims 1-~~14~~8 for use in a medicine to treat CMV infection in a patient.

~~27~~17. A method of making the conditional replication defective CMV of any of claims 2-~~14~~8 comprising propagating the recombinant CMV in epithelial cells in the presence of Shield-1.

~~28~~18. The method of claim ~~27~~17, wherein the epithelial cells are human pigmented retinal epithelial cells.

~~29~~19. The method of claim ~~28~~18, wherein the human retinal pigmented epithelial cells are ARPE-19 cells deposited with the American Type Culture Collection (ATCC) as Accession No. CRL-2302.

~~30~~20. The method of claim ~~27~~17, wherein the Shield-1 is present at a concentration of at least 0.5 μM.

~~31. The method of claim 30, wherein the Shield-1 is present at a concentration of at least 2μM~~

~~32. A method of making the composition of any of claims 15-17 comprising:~~

~~(a) propagating the conditional replication defective CMV in epithelial cells with Shield-1 added to the media;~~

~~(b) collecting the conditional replication defective CMV from the media;~~

~~(c) substantially removing the Shield-1 from the conditional replication defective CMV; and~~

~~(d) adding the pharmaceutically acceptable carrier to the conditional replication defective CMV.~~

~~33. The method of claim 32, wherein the epithelial cells are human pigmented retinal epithelial cells.~~

~~34. The method of claim 33, wherein the human retinal pigmented epithelial cells are ARPE-19 cells deposited with the American Type Culture Collection (ATCC) as Accession No. CRL-2302.~~

~~35. The method of claim 32, wherein Shield-1 is present at a concentration of at least 0.5 μM in the media during step (a).~~

~~36. The method of claim 35, wherein Shield-1 is present at a concentration of at least 2μM in the media during step (a).~~

~~37. The method of claim 32, wherein the removing is by ultracentrifugation or diafiltrations.~~

~~38. The method of claim 32, wherein the removing decreases the Shield-1 to below 0.1 μM.~~

~~39~~21, A composition comprising the conditional replication defective CMV of any of claims 1-~~14~~8 in a buffer at a pH between 5-7, wherein the buffer comprises ~~comprising~~:

(a) between 15-35 mM Histidine; and

(b) between 100-200 mM NaCl.

~~40. The composition of claim 39 further comprising between 5-15% Sucrose.~~

~~41~~22. The composition of ~~any of~~ claims ~~38-39~~21 wherein the buffer comprises 25 mM Histidine with 150 mM NaCl at a pH of 6.

~~42~~23. The composition of claim ~~41~~22 further comprising 9% w/v sucrose.

~~43. The nucleic acid of SEQ ID NO:14.~~