We claim:

1. A eukaryotic host cell comprising an artificial endosymbiont, wherein the artificial endosymbiont secretes a heterologous protein into the eukaryotic host cell and thereby provides a phenotype to the eukaryotic host cell.

2. The eukaryotic host cell of claim 1, wherein the protein is a selectable marker.

3. The eukaryotic host cell of claim 1, wherein the protein is a reporter protein.

4. The eukaryotic host cell of claim 3, wherein the reporter protein is a GFP.

5. The eukaryotic host cell of claim 1, wherein the artificial endosymbiont is an α-proteobacterium.

6. The eukaryotic host cell of claim 1, wherein the artificial endosymbiont is a magnetotactic bacterium.

7. The eukaryotic host cell of claim 1, wherein the eukaryotic host cell is a mammalian cell.

8. The eukaryotic host cell of claim 7, wherein the mammalian cell is selected from mouse, rat, rabbit, hamster, porcine, bovine, feline, canine or human cell.

9. A method for introducing a phenotype into a eukaryotic host cell, comprising the steps of:

culturing a eukaryotic host cell comprising an artificial endosymbiont, wherein the artificial endosymbiont expresses a secreted protein encoded by a heterologous nucleic acid and wherein the protein is secreted into the eukaryotic host cell and produces a phenotype in the eukaryotic host cell.

10. The method of claim 9, wherein the protein is a selectable marker.

11. The method of claim 9, wherein the protein is a reporter protein.

12. The method of claim 11, wherein the reporter protein is a GFP.

13. The method of claim 9, wherein the artificial endosymbiont is an α-proteobacterium.

14. The method of claim 9, wherein the artificial endosymbiont is a magnetotactic bacterium.

15. The method of claim 9, wherein the eukaryotic host cell is a mammalian cell.

16. The method of claim 15, wherein the mammalian cell is selected from mouse, rat, rabbit, hamster, porcine, bovine, feline, canine or human cell.