WHAT IS CLAIMED:

1. A genetically modified host cell capable of producing one or more steviol glycosides comprising a heterologous nucleic acid encoding an ATP-binding cassette (ABC)--transporter, wherein the genetically modified host cell with the ABC-transporter produces more total steviol glycoside (TSG) compared to the genetically modified host cell in the absence of the ABC-transporter, wherein the ABC-transporter comprises an amino acid sequence selected from the group consisting of SEQ ID NO: 7, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 28, SEQ ID NO: 29, and SEQ ID NO: 30, and wherein the ABC-transporter is capable of transporting steviol glycoside.

2. The genetically modified host cell of any of the preceding claims, further comprising a nucleic acid encoding geranylgeranyl pyrophosphate synthase (GGPPS), ent-copalyl pyrophosphate synthase (CPS), ent-kaurene synthase (KS), ent-kaurene 19-oxidase (KO), ent-kaurenoic acid 13-hydroxylase (KAH), cytochrome p450 reductase (CPR), and one or more UDP-glucosyltransferases (UGT).

3. The genetically modified host cell of claim 2, wherein the one or more UDP-glucosyltransferases (UGT) are selected from the group consisting of UDP glycosyltransferase 85C2, UDP glycosyltransferase 74G1, UDP-glycosyltransferase 91D, UDP glycosyltransferase 76G1, Os glycosyltransferase 91C1, and UDP- glycosyltransferase UGT40087.

4. The genetically modified host cell of claim 3, wherein the geranylgeranyl pyrophosphate synthase (GGPPS) comprises an amino acid sequence of SEQ ID NO: 9, the ent-copalyl pyrophosphate synthase (CPS) comprises an amino acid sequence of SEQ ID NO: 10, the ent-kaurene synthase (KS) comprises an amino acid sequence of SEQ ID NO: 11, the ent-kaurene 19-oxidase (KO) comprises an amino acid sequence of SEQ ID NO: 12, the ent-kaurenoic acid 13-hydroxylase (KAH) comprises an amino acid sequence of SEQ ID NO: 13, the cytochrome p450 reductase (CPR) comprises an amino acid sequence of SEQ ID NO: 14, and the one or more UDP-glucosyltransferases (UGT) comprise an amino acid sequence selected from the group consisting of SEQ ID NO: 15, SEQ ID NO: 16, SEQ ID NO: 17, SEQ ID NO:18, SEQ ID NO: 19.

5. The genetically modified host cell of claim 4, wherein the geranylgeranyl pyrophosphate synthase (GGPPS) comprises an amino acid sequence of SEQ ID NO: 9, the ent-copalyl pyrophosphate synthase (CPS) comprises an amino acid sequence of SEQ ID NO: 10, the ent-kaurene synthase (KS) comprises an amino acid sequence of SEQ ID NO: 11, the ent-kaurene 19-oxidase (KO) comprises an amino acid sequence of SEQ ID NO: 12, the ent-kaurenoic acid 13-hydroxylase (KAH) comprises an amino acid sequence of SEQ ID NO: 13, the cytochrome p450 reductase (CPR) comprises an amino acid sequence of SEQ ID NO: 14, and the one or more UDP-glucosyltransferases (UGT) comprise an amino acid sequence selected from the group consisting of SEQ ID NO: 15, SEQ ID NO: 16, SEQ ID NO: 17, SEQ ID NO:18, SEQ ID NO: 19.

6. The genetically modified host cell of any of the preceding claims, wherein the host cell is selected from a bacterial cell, a fungal cell, an algal cell, an insect cell, and a plant cell.

7. The genetically modified host cell of claim 6, wherein the host cell is a *Saccharomyces cerevisiae* cell.

8. The genetically modified host cell of any of the preceding claims, wherein the ABC-transporter comprises an amino acid sequence having the sequence of SEQ ID NO: 7.

9. The genetically modified host cell of claim 8, wherein the ABC-transporter comprises one or more amino acid substitutions relative to the amino acid sequence of SEQ ID NO: 7

, wherein the one or more amino acid substitutions are selected from V666A, Y942N, L956P, and E1320V.

10. The genetically modified host cell of any of the preceding claims, wherein the one or more steviol glycosides is selected from the group consisting of Rebaudioside A, Rebaudioside B, Rebaudioside D, Rebaudioside E, and Rebaudioside M.

11. The genetically modified host cell of claim 10, wherein the one or more steviol glycosides comprises Rebaudioside M.

12. The genetically modified host cell of any of the preceding claims, wherein the nucleotide sequence of the heterologous nucleic comprises a coding sequence selected from the group consisting of SEQ ID NO: 20, SEQ ID NO: 21, SEQ ID NO: 22, SEQ ID NO: 23, SEQ ID NO: 24, SEQ ID NO: 25, SEQ ID NO: 26, and SEQ ID NO: 27, wherein the coding sequence is operably linked to a heterologous promoter.

13. A method for producing steviol or one or more steviol glycosides comprising the steps:

(a) culturing a population of the host cells of any one of claims 1 to 11 in a medium with a carbon source under conditions suitable for making steviol or one or more steviol glycosides to yield a culture broth; and

(b) recovering said steviol or one or more steviol glycosides from the culture broth.

14. A method for producing Rebaudioside M comprising the steps:

(a) culturing a population of the host cells of any one of claims 1 to 11 in a medium with a carbon source under conditions suitable for making Rebaudioside M to yield a culture broth; and

(b) recovering said Rebaudioside M compound from the culture broth.