WHAT IS CLAIMED:

1. A variant kaurenoic acid hydroxylase polypeptide comprising the amino acid sequence of SEQ ID NO: 1, wherein the sequence further comprises one or more amino acid substitutions, wherein the one or more amino acid substitutions comprise an S452D amino acid substitution.

2. The variant polypeptide of claim 1, wherein the one or more amino acid substitutions further comprise an F332L amino acid substitution.

3. The variant polypeptide of claim 1 or 2, wherein the amino acid sequence is at least 90% identical to the amino acid sequence of SEQ ID NO: 1.

4. The variant polypeptide of any one of the preceding claims, wherein the amino acids encoding a N-terminal signal sequence are replaced with a corresponding amino acid sequence encoding the N-terminal signal sequence of a heterologous plant p450 polypeptide.

5. The variant polypeptide of claim 4, wherein the N-terminal signal sequence corresponds to amino acids 1-25 of SEQ ID NO: 1.

6. The variant polypeptide of claim 5, wherein the corresponding amino acid sequence comprises SEQ ID NO: 22.

7. The variant polypeptide of claim 6 comprising the amino acid sequence selected from SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19, SEQ ID NO: 20, and SEQ ID NO: 21.

8. A nucleic acid encoding the variant polypeptide of any one of the preceding claims.

9. A host cell comprising the polypeptide of any one of claims 1 to 7 or the nucleic acid of claim 8.

10. The host cell of claim 9, wherein the host cell is capable of producing one or more steviol glycosides.

11. The host cell of claim 10, wherein the one or more steviol glycosides are selected from RebA, RebB, RebD, RebE, and RebM.

12. The host cell of claim 11, wherein the one or more steviol glycosides comprise RebM.

13. The host cell of any one of claims 9 to 12, further comprising one or more nucleic acids encoding one or more enzymes of a pathway for making a steviol glycoside.

14. The host cell of claim 13, further comprising a nucleic acid encoding a geranylgeranyl diphosphate synthase.

15. The host cell of claim 13, further comprising a nucleic acid encoding a copalyl diphosphate synthase.

16. The host cell of claim 13, further comprising a nucleic acid encoding an *ent*-kaurene synthase.

17. The host cell of claim 13, further comprising a nucleic acid encoding a kaurene oxidase.

18. The host cell of claim 13, further comprising a nucleic acid encoding a cytochrome P450 reductase.

19. The host cell of claim 13, further comprising a nucleic acid encoding one or more uridine 5'-diphosphate-dependent glycosyltransferases.

20. The host cell of claim 13, further comprising one or more nucleic acids encoding a geranylgeranyl diphosphate synthase, a copalyl diphosphate synthase, an *ent*-kaurene synthase, a kaurene oxidase, a cytochrome P450 reductase, a UGT40087, UGT74G1, UGT76G1, UGT85C2, EUGT11, and UGT91D.

21. The host cell of any one of claims 9 to 20, wherein the cell is selected from a bacterial cell, a yeast cell, an algal cell, an insect cell, and a plant cell.

22. The host cell of claim 21, wherein the cell is a yeast cell.

23. The host cell of claim 22, wherein the cell is a *Saccharomyces cerevisiae*.

24. A method for producing one or more steviol glycosides comprising:

culturing a population of host cells of any one of claims 9 to 23 in a medium with a carbon source under conditions suitable for making one or more steviol glycosides to yield a culture broth; and

recovering the one or more steviol glycosides from the culture broth.

25. The method of claim 24, wherein the one or more steviol glycosides is RebM.

26. A fermentation composition comprising:

a host cell comprising a nucleic acid encoding a kaurenoic acid hydroxylase of any one of claims 9 to 23; and

one or more steviol glycosides produced by the host cell.

27. The fermentation composition of claim 26, wherein the one or more steviol glycosides is RebM.