5. An expression vector comprising the isolated nucleic acid of any one of claims 1-4.

6. A transgenic plant cell, plant or plant seed comprising the isolated nucleic acid of any one of claims 1-4 stably integrated into its genome.

7. The transgenic plant cell, plant or plant seed of claim 6, wherein the plant is a member of the *Cananga* genus.

8. The transgenic plant cell, plant or plant seed of claim 6, wherein the plant is a ylang ylang (*Cananga odorata*) plant.

9. A method for producing a transgenic plant which comprises introducing the isolated nucleic acid of any one of claims 1-4 or an expression vector comprising the isolated nucleic acid of any one of claims 1-4 into a plant, wherein the transgenic plant has the nucleic acid stably integrated in its genome.

10. A method for producing a transgenic plant which comprises transfecting the isolated nucleic acid of any one of claims 1-4 or an expression vector comprising the isolated nucleic acid of any one of claims 1-4 into a plant cell or plant cells and regenerating a transgenic plant from the transfected plant cell or transfected plant cells, wherein the transgenic plant has the nucleic acid stably integrated in its genome.

11. The method of claim 9 or 10, wherein the plant is a member of the *Cananga* genus.

12. The method of claim 9 or 10, wherein the transgenic plant is a ylang ylang (*Cananga odorata*) plant.

13. A method of synthesizing at least one terpene or sesquiterpene in a plant which comprises introducing the nucleic acid of any one of claims 1-4 or an expression vector comprising the nucleic acid of any one of claims 1-4 into a plant, wherein the nucleic acid is expressed in the plant thereby synthesizing the at least one terpene or sesquiterpene.