

[ABSTRACT]

The present disclosure relates to a geranylgeranyl pyrophosphate synthase variant; a polynucleotide encoding the variant; a vector including the polynucleotide; a microorganism including any one or more of the variant, the polynucleotide, and the vector; a method of producing tetraterpene, a precursor thereof, or a material having tetraterpene as a precursor using the same; a composition for producing tetraterpene, a precursor thereof, or a material having tetraterpene as a precursor; and use of the microorganism including any one or more of the variant, the polynucleotide, and the vector, for producing tetraterpene, a precursor thereof, and a material having tetraterpene as a precursor.