ABSTRACT

A novel polypeptide for producing tert-butyl (3R,5S)-6-chloro-3,5-dihydroxyhexanoate, a gene encoding the polypeptide, and a method of using the polypeptide, are provided. The polypeptide has an enzyme activity to asymmetrically reduce tert-butyl (S)-6-chloro-5-hydroxy-3-oxohexanoate to tert-butyl (3R,5S)-6-chloro-3,5-dihydroxyhexanoate. The polypeptide comprises the amino acid sequence represented by SEQ ID NO. 1 in the Sequence Listing, or the amino acid sequence having at least one amino acid substitution, insertion, deletion, or addition thereof.