

**ABSTRACT**

A DNA fragment coding for a decarbamylase protein improved in thermostability as the result of replacement of at least one base of a DNA fragment coding for a decarbamylase protein derived from a microorganism with another base and the resultant replacement of at least one of the corresponding amino acids, and its production process; a vector containing the DNA fragment; a transformant obtained by transformation with the vector; as well as a decarbamylase improved in thermostability and its production process. Also disclosed is a process for producing a D- α -amino acid, which comprises converting an N-carbamoyl-D- α -amino acid into the corresponding D- α -amino acid in an aqueous medium by the action of a decarbamylase having a thermostable temperature of 65°C or higher; and collecting the D- α -amino acid produced.