ABSTRACT

A strain which has a higher ability to produce ε-poly-L-lysine than the conventional ε-poly-L-lysine-producing strain or improved strain thereof and is capable of improving the productivity of ε-poly-L-lysine is provided and a process for producing ε-poly-L-lysine in a large amount by using said strain is provided. According to the process for producing ε-poly-L-lysine, a microorganism belonging to the species *Streptomyces albulus* having a production capacity of ε-poly-L-lysine is subjected to mutagenesis treatment to obtain a strain capable of producing ε-poly-L-lysine in a large amount and has resistance to S-(2-aminoethyl)-L-cysteine at a concentration as high as 10 mg/ml or more; said strain is aerobically incubated on a medium; and ε-poly-L-lysine in the culture is collected.