5-FLUOROURACIL-RESISTANT BACTERIA AND METHOD FOR PRODUCTION THEREOF

ABSTRACT

The present invention provides a method for producing a cytosine deaminase (CD)-expressing, 5-fluorouracil (5-FU)-resistant microorganism which can grow in anaerobic tumor tissues, can express CD, and has a resistance to 5-FU at a concentration that is at least effective for antitumor activity. More specifically, the method is a method (A) comprising performing subculture or acclimation culture of a CD-expressing microorganism which can grow in anaerobic tumor tissues, in the presence of 5-fluorocytosine (5-FC), or a method (B) comprising (1) performing subculture or acclimation culture of a microorganism which can grow in anaerobic tumor tissues and does not express CD, in the presence of 5-FU to produce a 5-FU-resistant microorganism and (2) transforming the 5-FU-resistant microorganism by introducing a CD gene. The present invention also provides the CD-expressing, 5-FU-resistant microorganism and a pharmaceutical composition comprising the microorganism.