

METHOD FOR SCREENING FOR POLYPEPTIDE THAT ACTS ON TARGET
PROTEIN

Abstract

The present invention relates to a method for screening for a polypeptide that acts on a target protein. The present invention relates more specifically, to a method for screening for a polypeptide that acts on a target protein, comprising the steps of:

(1) providing a polynucleotide library constituted of a plurality of expression vectors that can be expressed in a gram-negative bacterium, wherein the plurality of expression vectors each comprise a first polynucleotide encoding a polypeptide different from one another, a secretory signal sequence positioned upstream of the first polynucleotide, and a second polynucleotide encoding a target protein;

(2) transforming a gram-negative bacterium with the expression vector to express the polypeptide in a periplasmic space and the target protein on an inner membrane surface;

(3) contacting the polypeptide with the target protein in the periplasmic space;

(4) allowing the gram-negative bacterium to form a spheroplast to measure activity of the polypeptide on the target protein by an electrophysiological technique; and

(5) identifying a polypeptide that acts on the target protein based on the measured activity.

[FIG. 1]