Claims

1. A novel polypeptide against tumor caused by EB virus, which is formed by operable linkage of a mutant polypeptide of colicin which can form ion channels with a polypeptide of anti-EB virus antibody or a polypeptide of anti-EB virus antibody mimetics, the mutant polypeptide of colicin which can form ion channels is obtain by mutation of amino acid residues of G11A, H22G, A26G, V31L, and H40D to peptide chain of wild-type colicin E1, Ia, Ib, A, B, N or aqueous channel domain thereof, the amino acid sequence of the polypeptide of anti-EB virus antibody is the same as the polypeptide of monoclonal antibody secreted by hybridoma of ATCC HB-168.

2. The novel polypeptide against tumor caused by EB virus according to claim 1, wherein the polypeptide of antibody mimetics is a connected peptide of CDR1 region of heavy chain, linking peptide segment of CDR1-CDR2 of heavy chain and CDR3 of light chain of anti-EB virus antibody.

3. The novel polypeptide against tumor caused by EB virus according to claim 2, wherein the mutant polypeptide of colicin which can form ion channels is obtain by mutation of wild-type colicin Ia.

4. The novel polypeptide against tumor caused by EB virus according to claim 3, wherein the novel polypeptide against tumor caused by EB virus has the amino acid sequence shown in SEQ ID NO. 29.

5. A gene encoding the novel polypeptide against tumor caused by EB virus of any of claims 1-4.

6. The gene according to claim 5, which has the nucleotide sequence shown in SEQ ID NO. 30.

7. A recombination plasmid comprising the gene of claim 5.

8. A preparation method for the novel polypeptide against tumor caused by EB virus of any of claims 1-4, comprising steps of: transforming the recombination plasmid of claim 7 into an expression system for expression, and isolating the polypeptide expressed.

9. Use of the novel polypeptide against tumor caused by EB virus of any of claims 1-4 in preparation of a medicament for the treatment and prevention of tumor caused by EB virus.

10. A mutant polypeptide of colicin Ia, its amino acid sequence is shown in SEQ ID NO.

24.

11. A gene encoding the mutant polypeptide of colicin Ia of claim 10.

12. Use of the gene of claim 11 in preparation of peptide medicament, operably linking said gene with a gene which induces the peptide, cloning into an expression vector, then transforming the expression vector into an expression system, and isolating the polypeptide expressed.

Claims

1. A polypeptide comprising a mutant polypeptide sequence of colicin conjugated to a polypeptide sequence of an anti-EB virus antibody or a mimetic thereof, wherein the mutant polypeptide sequence of colicin comprises the peptide chain of wild-type colicin E1, Ia, Ib, A, B, N or an aqueous channel domain thereof, having mutations G11A, H22G, A26G, V31L and H40D, and wherein the anti-EB virus antibody is an antibody secreted by a hybridoma having the ATCC accession number HB-168.

2. The polypeptide according to claim 1, wherein the polypeptide sequence of the anti-EB virus antibody mimetic comprises the heavy chain CDR1, the heavy chain FR2 and the light chain CDR3 of the anti-EB virus antibody.

3. The polypeptide according to claim 2, wherein the mutant polypeptide of colicin is obtained by mutation of wild-type colicin Ia.

4. The polypeptide according to claim 3, which has the amino acid sequence shown in SEQ ID NO. 29.

5. A gene encoding the polypeptide of any one of claims 1-4.

6. The gene according to claim 5, which has the nucleotide sequence shown in SEQ ID NO. 30.

7. A recombination plasmid comprising the gene of claim 5.

8. A method for preparing the polypeptide of any one of claims 1-4, comprising the steps of: transforming the recombination plasmid of claim 7 into an expression system for expression of the polypeptide, and expressing and isolating and/or purifying the polypeptide.

9. Use of the polypeptide of any one of claims 1-4 in the preparation of a medicament for the treatment or prevention of a tumor caused by EB virus.

10. A mutant polypeptide of colicin Ia, which has the amino acid sequence shown in SEQ ID NO. 24.

11. A gene encoding the mutant polypeptide of colicin Ia according to claim 10.

12. A method for preparing a polypeptide medicament, the method comprising the steps of: operably linking the gene according to claim 11 with a gene that encodes a target polypeptide thereby forming a linked gene; cloning the linked gene into an expression vector; transforming the expression vector into an expression system for expressing the polypeptide medicament; and expressing, and isolating and/or purifying the polypeptide medicament.

13. A polypeptide medicament when prepared according to the method of claim 12.