~~Claims Amended under the article 34 of PCT~~

~~Claim 1 (Amended) A peptide interacting with a lipid bilayer at C-terminal, comprising a binding region for binding said lipid bilayer at C terminal side thereof, a basic region being composed of at least 6 basic amino acids at N terminal side, and a region composed of hydrophobic rich amino acids ligated to 3' side of said basic region through a sequence composed of 4 amino acids, wherein said peptide is composed of 10 to 100 amino acids.~~

~~Claim~~ **CLAIMS**

1. A peptide comprising the amino acid sequence of SEQ ID NO: 8.

2 ~~(Amended)~~. The peptide ~~interacting with a lipid bilayer at C-terminal according to the~~ of claim 1, wherein ~~said binding region is composed of a certain number of amino acids,~~ the peptide penetrates a lipid bilayer comprising 30% or more ~~than half of which is hydrophobic amino acids.~~ DOPC.

~~Claim~~ 3 ~~(Amended)~~. The peptide ~~interacting with a lipid bilayer at C-terminal according to the~~ of claim 1, wherein ~~said binding region comprises either of amino acid sequence represented in SEQ ID NO. 1 or 2.~~

~~SEQ ID NO. 1 PDARPIVRSPL~~

~~SEQ ID NO. 2 LPSRVIPRADP~~

~~Claim 4 (Amended) The peptide interacting with a lipid bilayer at C-terminal according to the claim 1, wherein said basic region comprises said amino acid sequence represented in SEQ ID NO. 3. Wherein, X represents arginine or lysine, however both of X does not simultaneously become arginine or lysine.~~

~~SEQ ID NO. 3 RXRRRRXR~~

~~Claim 5 (Amended) The peptide interacting with a lipid bilayer at C terminal according to the claim 1, wherein said peptide is composed of 25 to 40 amino acids.~~

~~Claim 6 (Amended) The peptide interacting with a lipid bilayer at C-terminal according to the claim 1, wherein said peptide comprising:~~

~~(a) said sequence composed of 4 amino acids has either of said amino acid sequence represented in SEQ ID NO. 4 or 5 between said biding region and said basic region:~~

~~SEQ ID NO. 4 TKTR~~

~~SEQ ID NO. 5 RTKT~~

(b) any one of amino acid sequence composing N-terminal thereof, selected from the group

the peptide penetrates a lipid bilayer consisting of LT, TL, and the amino acid sequence represented in SEQ ID NO. 6 in the sequence listing;DOPC.

SEQ ID NO. 6 RHSKS

(c) any one of amino acid sequence composing C-terminal thereof, selected from the group consisting of TL, and the amino acid sequence shown in SEQ ID NO. 7 in the sequence listing;

SEQ ID NO. 7 SKSHR.

Claim 7 (Amended) The peptide interacting with a lipid bilayer at C-terminal according to the claim 6, wherein said peptide comprising any one of the amino acid sequences represented by the following SEQ ID NO. 8 to 10:

SEQ ID NO. 8 LTRKRRRRRRTKTRPDARPIVRSPLSKSHR

SEQ ID NO. 9 RHSKSRRRRRRKRRTKTLPSRVIPRADPTL

SEQ ID NO. 10 TLRRRRRRKRRTKTLPSRVIPRADPRHSKS

Claim 8 (Amended) The peptide interacting with a lipid bilayer at C-terminal according to the claim 7, wherein said peptide comprising the amino acid sequence of SEQ ID NO. 8, and penetrating a lipid bilayer of the liposome or a cell membrane.

Claim 9 (Amended) The peptide interacting with a lipid bilayer at C-terminal according to the claim 7, wherein said peptide comprising the amino acid sequence of SEQ ID NO. 9 or 10, and binding with C-terminal thereof to the lipid bilayer of the liposome or the cell membrane.

Claim 10 (Amended)

4. A construct for a fusion protein expression comprising in 5' endthe peptide of any one of claims 1 to 3' end direction:

a tag region,3, and a fluorescent protein gene region, random region for incorporating the peptide-coding gene of the present invention, and a stop codon; wherein,linked to the N-terminal of the peptide.

said fluorescent protein gene region and said random region are mutually bound via a ligation region;

said fluorescent protein gene region has a region at 5' end for incorporating said fluorescent protein gene, and said random region and said stop codon are directly ligated, wherein,

said random region is composed of 10 to 100 amino acids;

it comprises a binding region for binding to a lipid bilayer at C-terminal, and a hydrophobic region being composed of at least 6 hydrophobic amino acids at N-terminal; and

a gene encoding a peptide interacting with said lipid bilayer at C-terminal.

~~Claim 11 –~~

5. The ~~construct for a~~ fusion protein ~~expression according to the~~ of claim ~~10~~4, wherein ~~said binding region is composed~~the peptide of any one of ~~a certain number of~~ claims 1 to 3 is linked to the ~~amino acids, and more than half number of them are hydrophobic.~~

~~Claim 12 The construct for a fusion protein expression according to the claim 10, wherein said binding region has an amino acid~~ protein of interest via a ligation sequence ~~represented in SEQ ID NO. 1 or SEQ ID NO. 2.~~ GGGSGGGS.

~~Claim 13 The~~ 6. A construct ~~for~~comprising a nucleic acid sequence encoding the fusion protein ~~expression according to the~~ of claim ~~10, wherein said hydrophobic region has an amino acid sequence represented in SEQ ID NO:3, wherein, X is arginine or lysine.~~

~~Claim 14 The construct for a fusion protein expression according to the claim 10, wherein, said random region comprises N-terminal sequence selected from the group consisting of LT, TL, and the amino acid sequence represented in SEQ ID NO. 6; a basic sequence directly ligated to the N-terminal sequence; a ligation sequence being composed of the amino acid sequence represented in SEQ ID NO.~~ 4 or ~~SEQ ID NO.~~ 5 ~~that ligate the basic region and the binding region; said binding region being composed of the amino acid sequence represented in SEQ ID NO. 1 or SEQ ID NO. 2 ligated to the basic region through the ligation sequence; and C-terminal sequence being composed of the amino acid sequence selected from the group consisting of TL, the amino acid sequence represented in SEQ ID NO. 7 and that represented in SEQ ID NO. 8. –~~ .

~~Claim 15 The construct for a fusion protein expression according to the claim 10, wherein said random region has an amino acid sequence selected from the group consisting of that represented in SEQ ID NO. 9 to SEQ ID NO. 11.~~

~~Claim 16 (Amended) A~~ 7. A method of preparing a liposome encapsulating ~~the peptide mutually interacting to the lipid bilayer at C-terminal according to any one of the claims 1 to 7.~~ a fluorescent protein, comprising

~~Claim 17 (Amended) The~~mixing the fusion protein of claim 4 or 5 with a liposome ~~on which the peptide mutually interacting to the~~ , wherein a lipid bilayer ~~at C-terminal according to any one of~~ of the liposome comprises 30% or more DOPC.

8. A liposome encapsulating the ~~claims 1 to 7.~~

fusion protein of claim 4 or 5, wherein the liposome comprises 30% or more DOPC.