

## CLAIMS

1. A compound or a pharmaceutically acceptable salt thereof or a derivative thereof; the compound is a compound of formula



5 (I) formula (I);

In formula (I), X<sub>1</sub> is an Ac;

in formula (I), X<sub>2</sub> is a polypeptide with an amino acid sequence of EAAAK;

in formula (I), X<sub>3</sub> is lysine;

in formula (I), X<sub>4</sub> is a lipophilic compound group modified on X<sub>3</sub>, the lipophilic compound  
10 is cholesteryl hemisuccinate or stearyl chloride;

in formula (I), X<sub>5</sub> is NH<sub>2</sub>.

2. The compound or the pharmaceutically acceptable salt thereof or the derivative thereof according to claim 1, wherein the compound is the compound of formula (I), X<sub>1</sub> is Ac, X<sub>2</sub> is  
15 EAAAK, X<sub>3</sub> is lysine, the lipophilic compound is cholesteryl hemisuccinate, X<sub>5</sub> is NH<sub>2</sub>.

3. The compound or the pharmaceutically acceptable salt thereof or the derivative thereof according to claim 1, wherein the compound is the compound of formula (I), X<sub>1</sub> is Ac, X<sub>2</sub> is  
20 EAAAK, X<sub>3</sub> is lysine, the lipophilic compound is stearyl chloride, X<sub>5</sub> is NH<sub>2</sub>.

4. Polymer, which is (a1) or (a2) or (a3) as below:

(a1) a polymer formed by the compound according to any one of claims 1-3;

(a2) a polymer formed from the pharmaceutically acceptable salt according to any one of  
claims 1-3;

25 (a3) a polymer formed from the derivative according to any one of claims 1-3

5. Uses of the compound or the pharmaceutically acceptable salt thereof or the derivative thereof according to any one of claims 1-3, which are (b1) or (b2) as below:

(b1) a use in preparation of a coronavirus membrane fusion inhibitor;

(b2) a use in preparation of a drug for preventing and/or treating a disease caused by a coronavirus;

6. A product comprising the compound or the pharmaceutically acceptable salt thereof or the derivative thereof according to any one of claims 1-3; the product has the following function (c1) or (c2):

(c1) as a coronavirus membrane fusion inhibitor;

(c2) preventing and/or treating diseases caused by coronavirus.

7. Uses of a linker polypeptide in preparation of a product for enhancing antiviral activity and/or stability of a virus membrane fusion inhibitor, the virus membrane fusion inhibitor contains the compound or the pharmaceutically acceptable salt thereof or the derivative thereof according to any one of claims 1-3, wherein the linker polypeptide has an amino acid sequence of EAAAK.

8. A method for enhancing antiviral activity and/or stability of a virus membrane fusion inhibitor, comprising the following steps: linking a linker polypeptide  $X_2$  as a linking arm into a virus membrane fusion inhibitor before modification and an  $X_3(X_4)$  group to obtain a lipopeptide, the lipopeptide is a compound of formula (I);



in formula (I),  $X_1$  is an Ac;

in formula (I), the linker polypeptide  $X_2$  has an amino acid sequence of EAAAK;

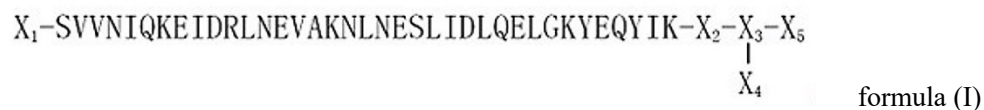
in formula (I), in the  $X_3(X_4)$  group,  $X_4$  is modified on  $X_3$ ;  $X_3$  is lysine;  $X_4$  is a lipophilic compound group, the lipophilic compound is cholesteryl hemisuccinate or stearyl chloride;

in formula (I),  $X_5$  is  $NH_2$ .

9. A method for preparing a modified virus membrane fusion inhibitor, comprising the following step:

linking a virus membrane fusion inhibitor before modification and an  $X_3(X_4)$  group by using a linker polypeptide  $X_2$  with an amino acid sequence of EAAAK as a linking arm to obtain a lipopeptide, the lipopeptide is a compound of formula (I);

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in formula (I),  $X_1$  is an Ac;

in formula (I), in the  $X_3(X_4)$  group,  $X_4$  is modified on  $X_3$ ;  $X_3$  is lysine;  $X_4$  is a lipophilic compound group, the lipophilic compound is cholesteryl hemisuccinate or stearyl chloride;

10 in formula (I),  $X_5$  is  $NH_2$ ;

the lipopeptide is the modified virus membrane fusion inhibitor.