Patent Claims

1. A fusion polypeptide comprising a polypeptide according to formula I

$$NH_2\text{-}S_2\text{-}X_1\text{-}S_1\text{-}COOH \qquad \text{(formula I)}$$

wherein

X_1 comprises either a random amino acid sequence or an amino acid sequence derived from a first polypeptide,

S_2 and S_1 are non-overlapping amino acid sequences derived from a second polypeptide, and

- denotes a peptide bond,

wherein the second polypeptide is a polypeptide with peptidyl-prolyl cis/trans-isomerase activity (PPIase activity) or is derived from the FKBP-fold domain family, and

wherein X_1 is inserted in place of the insert-in-flap-domain (IF-domain) of the second polypeptide.

2. The fusion polypeptide according to claim 1, characterized in that the fusion polypeptide comprises a polypeptide according to formula II

$$NH_2\text{-}S_4\text{-}X_2\text{-}S_3\text{-}S_2\text{-}X_1\text{-}S_1\text{-}S_0\text{-}COOH \qquad \text{(formula II)}$$

wherein

X_1 comprises either a random amino acid sequence or an amino acid sequence derived from a first polypeptide,

S_2 and S_1 are ~~either~~ non-overlapping amino acid sequences derived from a second polypeptide,

S_3 and S_0 are either absent or non-overlapping amino acid sequences derived from a third polypeptide,

S_4 is either absent or an amino acid sequence derived from a fourth polypeptide, and

23. A method for selecting an antibody specifically binding to a target antigen comprising the following steps:

a) determining the binding affinity of a plurality of antibodies to a target antigen, which is immobilized, whereby the amino acid sequence of X_1 of the fusion polypeptide according to any one of claims 1 to 17 comprises the target antigen amino acid sequence,

b) selecting the antibody having an apparent complex stability above a pre-defined threshold level.

~~24. A method for selecting an antibody that specifically binds to a target antigen wherein the immunization of an animal to generate antibodies is made with a fusion polypeptide comprising a Thermo thermophilus SlyD insert and a fusion polypeptide comprising the Thermococcus gammatolerans SlyD insert is used for the selection of the antibody.~~

~~25. A method for selecting an antibody that specifically binds to a target antigen wherein the selecting of the antibody that specifically bind to an antigen is made with a fusion polypeptide comprising Thermo thermophilus SlyD insert and a fusion polypeptide comprising the Thermococcus gammatolerans SlyD insert is used for the generation of antibodies (immunization).~~

~~26. An antibody obtained by a method according to any one of claims 19 to 21 and 23 to 25.~~