<u>Super Abzymes</u> ~ Essential Structure and Applications ~

KEY INVENTION

The essential structure of "Super Abzymes" which consist of the light chains of antibodies and show a hydrolysis activity to antigens has been identified, and the production method of the "Super Abzymes" has been developed.

What's Super Abzymes? \sim in comparison with Antibodies and Abzymes

- Antibodies : What specifically to bind antigens and defang them in the immune system
- Abzymes: What specifically to bind antigens then defang them by hydrolysis
- Super Abzymes : Abzymes which consist of the light chains of antibodies and show a higher hydrolysis activity than that by general abzymes

SUMMARY of INVENTION



EFFECT of INVENTION



Others

The technologies would be applicable to various fields (usages) such as...

- To the abzymes for chemokine receptor CCR5 (HIV Receptors), which means to be usable as <u>Anti-HIV Agents</u>.
- To the abzymes for human TNF-a, which means to be usable for the <u>Diseases of</u> <u>Abnormal Cytokine Production</u>.
- To the abzymes for the cancer cells (lung cancer cells), which means to be usable as <u>Anti-Tumor Agents</u>.

APPLICATION expected

© Application for medicines such as anti-HIV agents or anti-tumor agents

- © Application for the measures against new infectious diseases such as COVID-19
- © Application for the new prevention method against influenza
- © Application for the rapid virus detection method by biosensors

Representative Inventor: Emi Hifumi (Professor, Oita University), Taizo Uda (Professor, Oita University)

Licensable Patent [Title of Invention - Registration No. (JP)/International Publication No. (WO)]

- $\ensuremath{\mathbb O}$ Novel Production Methods for Abzymes and Novel Abzymes JP4334931
- $\ensuremath{\mathbb O}$ Human Abzymes and Production Methods JP4829609
- $\ensuremath{\mathbb O}$ Abzymes for N-Terminal Region of Chemokine Receptor CCR5 JP4777785
- ${\odot}$ Abzymes for Human TNF-a and Application JP4861019
- © Abzymes for Human IgE and Application JP5058490
- © Anti-Cancer Agents WO2013133253
- © Production Methods for Anti-Virus Agents, Abzymes, Primer Sets, Polynucleotides and Polypeptides WO2011102517
- © Human Antibody κ-Type Light Chain Complex-containing Composition and Production Method WO2015025786
- $\ensuremath{\mathbb O}$ Innovation Production Technologies for Abzymes WO2021015237

 Contact : IP Management & Licensing Group, Department of Intellectual Property Management, JST

 TEL) +81-3-5214-8486
 email) <u>license@jst.go.jp</u>
 URL) www.jst.go.jp/chizai/

