

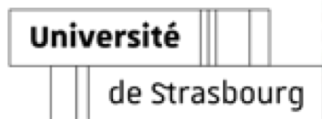
14th URA International Seminar

DATE: NOVEMBER 10th 2022

TIME: 15 : 00 - 16:30 (TBC)

VENUE: **SHIKATA** Campus

講堂(Kodo @shikata kaikan) -
Kodo Auditorium



Antibody-based drug delivery systems

Dr. Alain Wagner,
Strasbourg University and CNRS – France



ABSTRACT

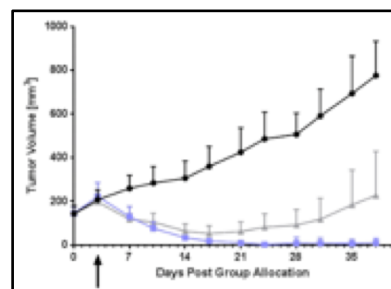
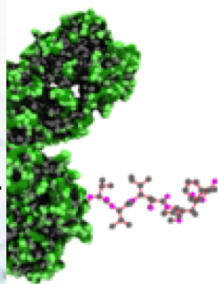
The success of the antibody-drug conjugates that have recently been brought to market demonstrates the considerable therapeutic potentials of this approach.

Huge improvement and additional innovations are however still required to fully meet those potentials. Many of these rely on understanding and tight control of the processes of chemical bond formation and disruption in a defined biological environment.

In this context, we conduct studies with the aim of obtaining improved ADCs by increasing bioconjugation efficiency and by controlling payload release. Combining payloads with complementary modes of action is also investigated.

Examples of our chemistry-based strategies, results and current thinking will be presented. In particular, a semi-automated protein conjugation allowing stoichiometric control of the protein/drug ratio, thus introducing a new ADC format specific to the degree of conjugation, will be depicted.

The talk will also introduce main highlights of recent advances in synthesis and evaluation of antibody-RNA conjugates and multi-mode of action ADCs allowing synergistic targeted cytotoxic activity and immune system stimulation.



【Inquiry】

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Alain WAGNER – BIO

Alain Wagner is Director of Research at CNRS - France and heads the BioFunctional Chemistry team – BFC - (<http://www.biofunctional.eu>), a CNRS and Strasbourg University joint research unit.

BFC is a founding team of the institute of drug discovery and Development (IMS) which addresses a range of challenges of the pharmaceutical sector:

- ** Produce high-quality research up to the pre-clinical stage,
- ** Promote technological innovation through the creation of start-ups ,
- ** Train a new generation of researchers to drug innovation.



Wagner's research is focused on manipulating living systems through the use, in situ, of chemical reactions capable of operating complex biological media. Specific efforts are dedicated to the development of cleavable linkers and payloads characterized by new or combined modes of action for safer Antibody Drug Conjugate (ADC). The use of bio-specific chemistry to intercept reactive metabolites in living organisms is another major component of his research interests.

Alain recently pioneered a microfluidic technology giving access to the analysis and sorting of large populations of single cells on the basis of their secretory activity.

In 2021 Alain co-founded MicroOmiX, a start-up developing advanced single cell-based R&D in the field of antibody and cell based product development.

Combining research and technology transfer Alain authored more than 160 peer reviewed publications

Alain is the inventor of 30 patents and the co-founder of 5 start-ups.



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