

19th URA International Seminar

DATE OCTOBER 10th 2023

TIME 16:00 - 17:30

VENUE SHIKATA -- KOUDO Auditorium – The talk will be broadcasted on ZOOM

New non-immunosuppressive era for Lupus treatment, a chronic disabling autoimmune disease

Professor Sylviane Muller, Strasbourg University and CNRS – France



ABSTRACT

Autoimmune diseases result from the immunity directed against the organism itself. The immune system abnormally recognizes self-components as foreign and produces antibodies, which are directed against normal cells and tissues.

In systemic lupus erythematosus, which is characterized by inflammation and damage of various tissues (joints, skin, kidneys, heart, lungs, blood vessels, brain), at least 60 different antigens targeted by specific antibodies have been characterized.

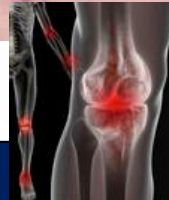
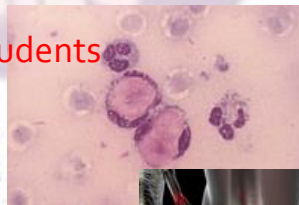
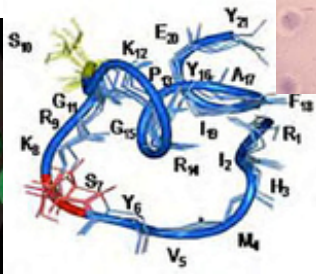
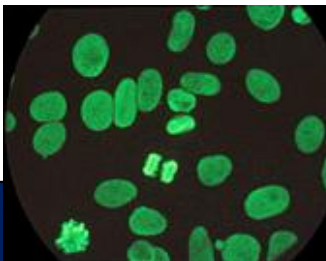
Current treatments of this multifactorial disease that can be fatal are mainly based on immuno suppressive drugs, which can lead to important side effects. Recently, there have been great leaps in advancing patients care with lupus. In 2020 and 2021, two new drugs (anifrolumab and voclosporin) were approved for the treatment of lupus or lupus nephritis.

Other promising molecules are currently evaluated in clinical trials. It is the case of the peptide P140/Lupuzor, presently included in phase III clinical trials for lupus patients in the US. New data will be shown demonstrating that this peptide acts by depleting autoreactive T cells clones, therefore hampering amplification of the downstream autoimmune B cell response and potentially pathogenic autoantibody production. This depletion thus leads to normalize immune responses, in otherwise autoimmune individuals. This very novel therapeutic strategy might be also applied to other chronic inflammatory diseases where basal autophagy, the target of P140, is abnormally increased and needs to be reduced.

- Schall, N., Talamini, L., Wilhelm, M., Jouvin-Marche, E. & Muller S. (2022) P140 peptide leads to clearance of autoreactive lymphocytes of autoreactive lymphocytes and normalizes immune response in lupus-prone mice. *Front. Immunol.* 13: 904669
- Gros, F. & Muller, S. (2023) Role of lysosomes in metabolic and autoimmune diseases. *Nature Rev Nephrol.* 19:366–383.

The participation is free of charge
Advanced registration – dead-line: Aug-20th@:
bernard-chenevier@cc.okayama-u.ac.jp
ZOOM link will then be sent to participants registered outside Okayama

NB: Talk for scientists, teachers and students



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Sylviane Muller *** -- BIO

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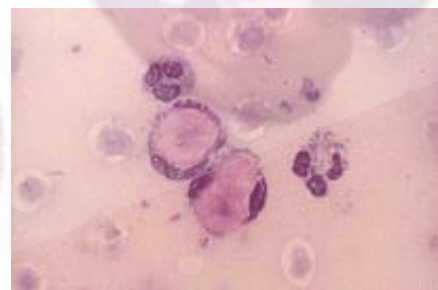
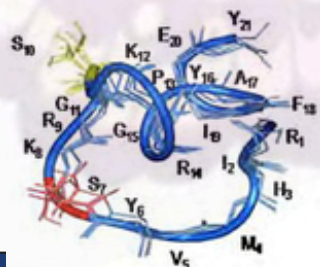
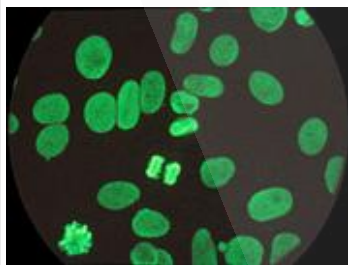
Sylviane Muller is senior scientist (emeritus research director at CNRS) and Professor at USIAS (University of Strasbourg Institute for Advanced Study - she holds the chair in Therapeutic immunology). She earned her doctorate in Sciences at the University of Strasbourg and was a postdoctoral fellow in Freiburg (Germany) at the Max-Planck Institute for Immunobiology. Her field of expertise covers autoimmunity, immuno-peptides and synthetic vaccines. Her team investigates the molecular and cellular bases of the normal immune response and dysfunction, to find novel therapeutic approaches to treat autoimmune, tumoral and infectious diseases. The team also discovered and patented a molecule capable of correcting the immune system in an autoimmune disease, systemic lupus erythematosus, for which no non-suppressive, safe, treatment currently exists.

Professor Muller is Secretary of the USIAS Board, supporting the Director in representation and in strategic decision-making. From 2001 to 2017 she headed the CNRS Laboratory of Therapeutic Immunology and Chemistry at the Institute of Molecular and Cellular Biology in Strasbourg (IBMC) and was the Director of this CNRS Institute (2026-2017).

Professor Muller holds 30 patents and has published 410 original publications and review articles/chapters. She was one of the founders of the companies Neosystem (today Polypeptide France) and ImmuPharma. She has received a range of national and international awards including the prestigious CNRS Silver Medal 2009 and CNRS Innovation Award 2015, the Léon Velluz Prize from the French Academy of Sciences 2016, finalist of the 2017 European Inventor Award, Prix d'honneur 2022 of the National Academy of Pharmacy, Prize of the European Inventor Network 2023). She is a fellow of the European Academy of Sciences (2020) and Member of the Academia Europaea (2020).

She has been awarded Chevalier de l'Ordre de la Légion d'Honneur (2010), Officier de l'Ordre National du Mérite (2016), and was promoted Officier de la Légion d'Honneur in 2021.

*** CNRS, UMR Biotechnology and cell signaling, University of Strasbourg, École Supérieure de Biotechnologie de Strasbourg, France; Laboratory of excellence MEDALIS, Strasbourg, France; University of Strasbourg Institute for Advanced Study, Strasbourg, France. Institut de science et d'ingénierie supramoléculaire (ISIS), 8 allée Gaspard Monge, 67000 Strasbourg, France



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