13th URA International Seminar

DATE OCTOBER 31 2018
TIME 14 : 00 - 16:30
VENUE SHIKATA -- MASCUT HALL (MUSCAT CUBE 3F) HTTPS://MUSCATSIM.WIXSITE.COM/MUSCATCUBE

LUPUS: a challenging world-wide disease

II - Autophagy processes,

a new target to treat autoinflammatoty disease

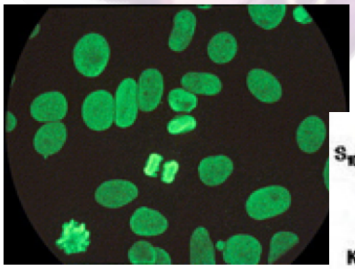
Professor Sylviane Muller, Strasbourg University and CNRS – France

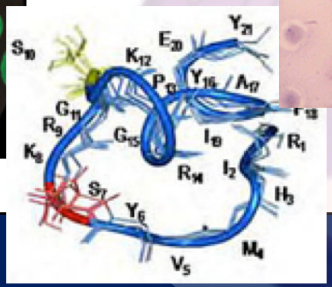
ABSTRACT

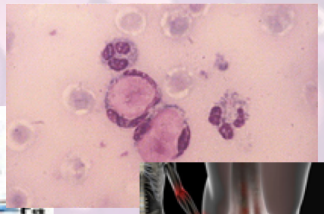
Nowadays, pharmacologic treatments of inflammatory and autoimmune diseases are largely palliative rather than curative. Most of them result in non-specific immunosuppression, which can be associated with disruption of natural and induced immunity with significant, sometimes dramatic, adverse effects. Among the novel strategies that are under development, tools that modulate the immune system to restore normal tolerance mechanisms, are central. In these approaches, peptide therapeutics constitute a class of agents that display many physicochemical advantages.

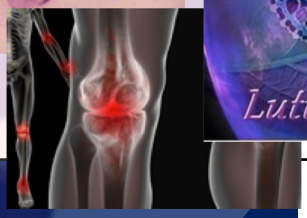
Within this class of potent drugs, the phosphopeptide P140 is very promising for treating patients with SLE, and likely also patients with other chronic inflammatory diseases. In a multicenter, randomized, placebo-controlled phase-IIb study for lupus, P140/LupuzorTM was found to be safe and met its primary efficacy end points, confirming pre-clinical data generated in MRL/lpr lupus-prone mice. Lupuzor is currently evaluated in phase-III clinical trials in the US, Europe and Mauritius.

We discovered that P140 targets autophagy, a finely orchestrated catabolic process, involved in the regulation of inflammation and in the biology of immune cells. P140 acts directly on a particular form of autophagy called chaperone-mediated autophagy, which is hyperactivated in lupus in certain subsets of lymphocytes. The "correcting" effect of P140 on autophagy results in a weaker signaling of autoreactive T cells, leading to a significant improvement of physiopathological status of treated mice. These findings open novel avenues of therapeutic intervention in other pathological conditions in which reduction of autophagy activity would be desired. New data will be presented in the context of neurological autoinflammatory diseases.









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Sylviane Muller *** -- BIO

- Chair of Therapeutic Immunology

Sylviane Muller is a research director at CNRS. 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). She earned her doctorate in Sciences at the University of Strasbourg and was a postdoctoral researcher in Freiburg (Germany) at the Max-Planck Institute for Immunobiology. Her field of expertise covers autoimmunity, immuno-peptides and synthetic vaccines.

Her team studies the molecular and cellular bases of the normal immune response and dysfunction, to find novel therapeutic approaches to treat autoimmune, tumoral and infectious diseases. With her team, she has discovered and patented a molecule capable of correcting the immune system in an autoimmune disease, systemic lupus erythematosus, for which no specific treatment currently exists. She was awarded the Silver Medal of CNRS (2010).

Professor Muller holds 24 patents and has published more than 330 publications and review articles/chapters. She was one of the founders of the companies Neosystem (today Polypeptide France) and ImmuPharma. With many patents and the creation of two companies, society benefits from tangible benefits of her lab's research.
On 10 June 2015, Sylviane Muller received the CNRS Innovation Medal 2015, a prestigious award recognizing individuals whose outstanding research leads to breakthrough innovations in terms of technological, medical and societal applications.

In the USIAS Board, Professor Muller holds the position of Secretary of the Board, supporting the Director in representation and in strategic decision-making.

*** *CNRS, UMR Biotechnology and cell signaling, University of Strasbourg, École Supérieure de Biotechnologie de Strasbourg, France;*
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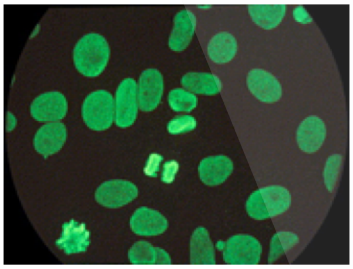

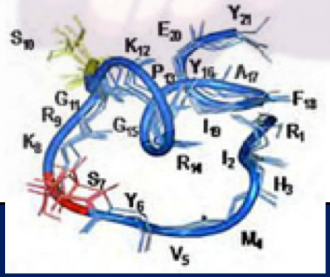

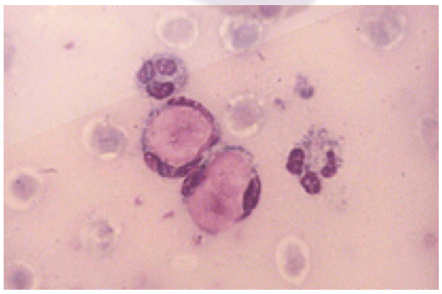

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