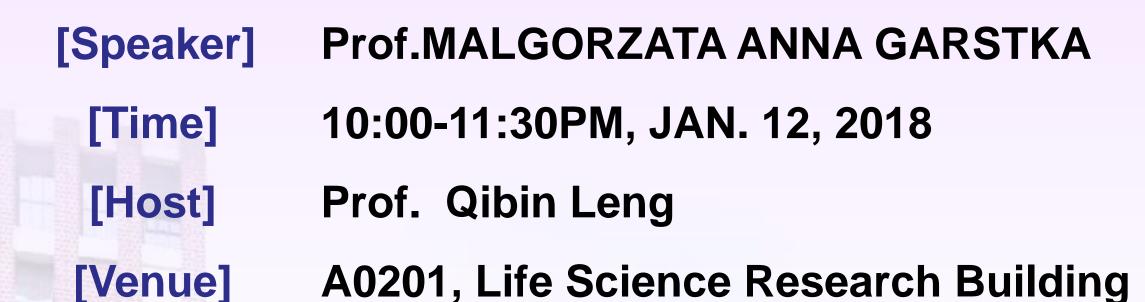


巴斯德讲坛-精英系列 Pasteur Colloquium-Elite

Temperature-induced peptide exchange on MHC I multimers for antigen specific T cell detection



[Speaker Introduction]

09/2016 - present 05/2009 - 08/2016 Cancer 10/2008 - 04/2009 09/2007 - 09/2008 **Professor**, Xi'an Jiaotong University, Xi'an, China **Post-doctoral scientist**, laboratory of Prof. Jacques Neefjes, The Netherlands

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[Abstract]

MHC multimers have been used for detection of antigen-specific T cells in infection, autoimmunity and cancer. However, traditional multimers are labor-intensive, and even multimers produced with the UV-exchanged MHC class I ligand present certain limitations.We developed temperature-mediated peptide exchange on MHC class I multimers as a "next generation" technology that provides more efficient, rapid and cost-effective alternative to conventional or UV-exchanged MHC class I multimers for the detection of antigen-specific T cells. We have designed MHC ligands that form stable complexes with MHC class I molecules at low temperatures, but degrade by exposure to a defined elevated temperature. Empty MHC molecules generated in such way can be loaded with different peptides. We demonstrate the value of this approach by staining CD8+ T cells specific for viral epitopes in mice infected with lymphocytic choriomeningitis virus or cytomegalovirus or by monitoring the viral immune constitution in an allogeneic stem cell transplantation patient.



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