

Harnessing bystander antiviral T cells for in situ vaccination against solid tumors

Our research focuses on tissue-targeted vaccines against viral infection and cancer. Using papillomavirus- and adenovirus-based vectors, we have demonstrated that local vaccination in a heterologous prime-boost regimen can induce high numbers of protective cervicovaginal tissue-resident memory CD8⁺ T cells. Currently, we focus on novel local antigen delivery approaches based on viral- and vaccine-derived peptides that harness preexisting antiviral immunity to develop tumor-antigen-agnostic cancer immunotherapies. Specifically, we investigate how activating antiviral/vaccine-specific bystander T cells within tumors shapes T cell trafficking and modulates the tumor microenvironment to promote epitope spreading. This in situ vaccination approach provides a new avenue for developing broadly applicable cancer immunotherapies.



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Dr. Nicolas Çuburu received a B.S. in Biochemistry and Molecular Biology from Aix-Marseille University (Marseille, France) and a Master's degree in Genetics and Immunology from the University Claude Bernard (Lyon, France). He earned a Ph.D. in Immunology and Microbiology at the University of Nice-Côte d'Azur (Nice, France); his thesis work, in the lab of Dr. Cécil Czerkinsky, focused on mucosal vaccination and the dissemination of immune responses after sublingual vaccination. Dr. Çuburu completed his postdoctoral training at the International Vaccine Institute (Seoul, South Korea), focusing on vaccine immune monitoring. In 2008, Dr. Çuburu joined the Laboratory of Cellular Oncology at NCI as a postdoctoral fellow in the laboratory of Dr. John Schiller, and was later appointed Staff Scientist, a position he still holds. His work focuses on tissue targeted vaccine delivery with viral vectors and in situ vaccination against cancer, and has resulted in numerous peer-reviewed publications and several patents in the field of mucosal and tumor immunology.



**TUESDAY
22/9/2026**

13:00
**Costas Fotakis
room**



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