



Dr Antonio Cosma

Flow cytometry and data



Antonio Cosma has worked in different institutions in Italy, Germany, and France. He has more than fifteen years of experience in the analysis of the immune responses. He is an expert in the development of flow-cytometry-based assays and new technologies related to immune-assay, data management and analysis. Between 2004 and 2009, he was responsible for the immune-monitoring core facilities of the Institute of Virology, Helmholtz Zentrum Munchen, Germany. Since 2009, he leads the FlowCyTech core facility. His scientific activity focuses on the study of immune-correlates of HIV protection.

The **FlowCyTech** core facility supports discovery process from panel design to data analysis with conventional multiparameter flow cytometry and innovative high-end solutions. In 2011, FlowCyTech was the first core facility in Europe to implement the mass cytometry (CyTOF). In addition to provide instrumental capacity, FlowCyTechs supports all the data analysis process starting from sample analysis, data management and integration. Inter alia, the FlowCyTech project is funded by the “Investissement d’Avenir program” of the French government.

Major publications

1. Bernard-Stoecklin, S., C. Gomet, A.B. Corneau, S. Guenounou, C. Torres, N. Dejuq-Rainsford, **A. Cosma**, N. Dereuddre-Bosquet, R. Le Grand. **2013**. Semen CD4+ T Cells and Macrophages Are Productively Infected at All Stages of SIV infection in Macaques. *PLoS Pathogens* 9: e1003810
2. Kutscher, S., C. J. Dembek, S. Deckert, C. Russo, N. Körber, J. R. Bogner, F. Geisler, A. Umgelter, M. Neuenhahn, J. Albrecht, **A. Cosma**, U. Protzer, and T. Bauer. **2013**. Overnight Resting of PBMC Changes Functional Signatures of Antigen Specific T- Cell Responses: Impact for Immune Monitoring within Clinical Trials. *PLoS One* 8: e76215.
3. Guenounou, S., N. Bosquet, C. J. Dembek, R. Le Grand, and A. Cosma. **2013**. OMIP-016: Characterization of antigen-responsive macaque and human T-cells. *Cytom. A* 83: 182–4.
4. Dembek, C. J., S. Kutscher, S. Allgayer, C. Russo, T. Bauer, D. Hoffmann, F. D. Goebel, J. R. Bogner, V. Erfle, U. Protzer, and **A. Cosma**. **2012**. Longitudinal changes in HIV-1-specific T-cell quality associated with viral load dynamic. *J. Clin. Virol.* 55: 114–20.
5. Kutscher, S., S. Allgayer, C. J. Dembek, J. R. Bogner, U. Protzer, F. D. Goebel, V. Erfle, and **A. Cosma**. **2010**. MVA-nef induces HIV-1-specific polyfunctional and proliferative T-cell responses revealed by the combination of short- and long-term immune assays. *Gene Ther.* 17: 1372–1383.
6. Dembek, C. J., S. Kutscher, S. Heltai, S. Allgayer, P. Biswas, S. Ghezzi, E. Vicenzi, D. Hoffmann, P. Reitmeier, G. Tambussi, J. R. Bogner, P. Lusso, H.-J. J. Stellbrink, E. Santagostino, T. Vollbrecht, F. D. Goebel, U. Protzer, R. Draenert, M. Tinelli, G. Poli, V. Erfle, M. Malnati, and **A. Cosma**. **2010**. Nef-specific CD45RA+CD8+T cells secreting MIP-1 beta but not IFN-gamma are associated with nonprogressive HIV-1 infection. *AIDS Res. Ther.* 7: 20.
7. Mamani-Matsuda, M., **A. Cosma**, S. Weller, A. Faili, C. Staib, L. Garçon, O. Hermine, O. Beyne-Rauzy, C. Fieschi, J.-O. Pers, N. Arakelyan, B. Varet, A. Sauvanet, A. Berger, F. Paye, J.-M. Andrieu, M. Michel, B. Godeau, P. Buffet, C.-A. Reynaud, and J.-C. Weill. **2008**. The human spleen is a major reservoir for long-lived vaccinia virus-specific memory B cells. *Blood* 111: 4653–9.

8. **Cosma, A.**, R. Nagaraj, C. Staib, C. Diemer, F. Wopfner, H. Schätzl, D. H. Busch, G. Sutter, F. D. Goebel, and V. Erfle. **2007**. Evaluation of modified vaccinia virus Ankara as an alternative vaccine against smallpox in chronically HIV type 1-infected individuals undergoing HAART. *AIDS Res. Hum. Retroviruses* 23: 782–93.

9. **Cosma, A.**, S. Bühler, R. Nagaraj, C. Staib, A.-L. Hammarin, B. Wahren, F. D. Goebel, V. Erfle, and G. Sutter. **2004**. Neutralization assay using a modified vaccinia virus Ankara vector expressing the green fluorescent protein is a high-throughput method to monitor the humoral immune response against vaccinia virus. *Clin. Diagn. Lab. Immunol.* 11: 406–410.

10. **Cosma, A.**, R. Nagaraj, S. Bühler, J. Hinkula, D. H. Busch, G. Sutter, F. D. Goebel, and V. Erfle. **2003**. Therapeutic vaccination with MVA-HIV-1 nef elicits Nef-specific T-helper cell responses in chronically HIV-1 infected individuals. *Vaccine* 22: 21–29.