JOINT TRANSNATIONAL CALL 2016:

"Minimally and non-invasive methods for early detection and/or progression of cancer"

PARTNER REQUEST/COLLABORATION OFFER

If you would like to have your profile published on the TRANSCAN-2 website, "Looking for a research partner" webpage, please fill out this form and send it to ✉
If you have any questions about this form, please do not hesitate to contact us at ✉

Note: Fields marked with a * are mandatory

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***I agree with the publication of my contact data and of this form on the TRANSCAN-2 Website:**

☑ YES

SEARCH FOR A COLLABORATOR

IF YOU ARE LOOKING FOR A PARTNER IN YOUR SUGGESTED PROPOSAL, PLEASE SPECIFY ALSO THE NEEDED EXPERTISE

Project proposal
Project title (draft):
Short description of the project in preparation and of the consortium; description of the areas of expertise needed (Max. 2000 words):

OFFER FOR COLLABORATION

IF YOU PROPOSE YOURSELF AS A PARTNER IN A CONSORTIUM, PLEASE DETAIL YOUR EXPERTISE

Short description of the areas of interest and expertise (Max. 2000 words):

The main area of interest of our lab regards the study of the biology of ***exosomes*** and other nanovesicles. Malignant tumours are often detected in a late clinical stage because current detection systems are often not very sensitive. Plasma extracellular nanovesicles in tumor patients harbor diverse biomarkers that reflect tumor growth even at the level of the minimal residual disease. Techniques of detection, small-to-large-scale production, concentration, purification, titration, and characterization of exosomes are routinely practiced in our laboratory, In addition, techniques for production of both retro- and lentiviral vectors are also in use, including inducible vectors, eg Dox-regulatable "All in one" lentiviral vectors. We also haves a solid expertise in basic immunology, especially regarding CTL immunity, and tumor biology, including both "ex vivo" and "in vivo" studies.

We have 200 sq. m. of exclusively dedicated space. In addition, we have free access to fully equipped bio safety level 3 laboratories that are embedded in the our space. We are equipped with office and laboratory computers linked to the Web via a Central Institute Server. In all cases, offices are embedded in the laboratory structure. The secretarial offices are located about 100 meters from our offices. All facilities required for the development of standard cellular, molecular biology, and immunology techniques are part of our laboratory. In particular, we dispose of two rooms including level 2 biologic safety cabinets exclusively dedicated to cell cultures. In addition, the laboratory is equipped with bacterial incubators/shakers, CO2/O2 controlled cell incubators, centrifuges, and Beckman TL-100 and L7-80 ultracentrifuges, thermocyclers, real-time PCR devices, PAGE and agarose electrophoresis equipment, Western blot transfer apparatus, radioactive containment facilities, Instant-Imager apparatus, fluorescence microscopes, FACS scanner, + 4 °C to –80 °C freezers, liquid nitrogen holders, ELISA counter and washer; A-EL-VIS ELISPOT reader. Cell Sorter, confocal and transmission electronic microscopes, and animal facilities, although not part of our lab, are freely available as centralized facilities at the Istituto Superiore di Sanità. Finally, we have also free access to fully equipped bio safety level 3 laboratories that are embedded in our space. These comprise two negative pressure rooms of 30 sq. m. each, with 4 biological safety cabinets, 5 CO2-controlled incubators, low and high-speed centrifuges, two ultracentrifuges, two +4°C refrigerators as well as two -20°C and two -80°C freezers.

RELEVANT RECENT PUBLICATIONS

1. C. Muratori, L.E. Cavallin, K. Ktatzel, A. Tinari, A. De Milito, S. Fais, P. d Aloja, M. Federico, V. Vullo, A. Fomina, E. A. Mesri, F. Superti, and A.S. Baur. Massive secretion by T cells is caused by HIV Nef in infected cells and by Nef transfer to bystander cells. *Cell Host & Microbe*. 2009. 6: 1-13.

2. P. Di Bonito, F. Grasso, S. Mochi, L. Petrone, E. Fanales-Belasio, A. Mei, A. Cesolini, G. Laconi, H. Conrad. H. Bernhard, C.J. Dembek, A. Cosma, S.M. Santini, C. Lapenta, S. Donati, C. Muratori, C. Giorgi, and M. Federico. Anti-tumour CD8+ cell immunity elicited by HIV-1 based Virus-Like Particles incorporating HPV-16 E7 protein. *Virology*. 2009. 395, 45-55.

3. Lattanzi L, Federico M.A strategy of antigen incorporation into exosomes: Comparing cross-presentation levels of antigens delivered by engineered exosomes and by lentiviral virus-like particles. *Vaccine.* 2012 Nov 26;30(50):7229-37. doi: 10.1016/j.vaccine.2012.10.010. Epub 2012 Oct 22.

4. Columba Cabezas S, Federico M.Sequences within RNA coding for HIV-1 Gag p17 are efficiently targeted to exosomes. *Cell Microbiol*. 2013 Mar;15(3):412-29

5. Jung-Hyun Lee, Sebastian Wittki, Tanja Brau, Florian S. Dreyer, Kirsten Kratzel,Jochen Dindorf, Ian C.D. Johnston, Steffanie Gross, Elisabeth Kremmer, Reinhard Zeidler, Ursula Schlotzer Schrehardt, Mathias

Lichtenheld, Kalle Saksela, Thomas Harrer, Gerold Schuler, M. Federico, and Andreas S. Baur.HIV Nef-Associated Paxillin and Pak1/2 Regulate Activation and Secretion of TACE/ADAM10 Proteases *Molecular Cell* 49: 668-679. 2013.