PhD in
Molecular Medicine and Medical Biotechnology
Advanced courses 2025

Title:
Active immunotherapy: oncolytic viruses, antitumor vaccines and efficacy modulators

November 3, 15:00, *Lorella Tripodi*
Seminar room, 1st floor Torre Biologica
Microbiota and other immunomodulatory factors influencing immunotherapy success

November 10, 15:00, *Lucio Pastore*
Seminar room, 1st floor Torre Biologica
Development of oncolytic viruses and antitumor vaccines: from viruses to RNA 1

November 24, 15:00, Vincenzo Cerullo
Zoom:
https://us06web.zoom.us/j/85986778354?pwd=VffQYU2Nbf3yEEwIQlhhHrta4NJoKI.1
Cancer Immunotherapy

December 1st, 15:00, Nicola Zambrano
Seminar room, 1st floor Torre Biologica
Development of oncolytic viruses and antitumor vaccines: from viruses to RNA 2

Topics

Lorella Tripodi: Microbiota and other immunomodulatory factors influencing immunotherapy success

- Introduction to metagenomics and analysis methods
- The role of the microbiota in the immune response to cancer and antitumor immunotherapy
- Clinical relevance of molecular analysis of the microbiota: indices of eubiosis, biodiversity, and interphyla relationships
- Identification of prognostic and predictive markers in the microbiota
- Integration of immunotherapy treatment with prebiotics, probiotics, and postbiotics
- Integration of immunotherapy treatment with dietary regimens
- Intratumor microbiota: analysis and clinical significance
- Using artificial intelligence to more precisely analyze microbial compositions, identifying specific correlations between bacteria and host health conditions

Lucio Pastore: Development of oncolytic viruses and antitumor vaccines: from viruses to RNA 1

- Oncolytic Adenoviruses: History and Development
- Adenoviral Vectors
- Weaponized Oncolytic Adenoviruses: Cloning Techniques and the Introduction of Therapeutic Transgenes
- Decoration Methods and Chemical Modifications of Adenoviruses
- RNA Vaccines – History
- RNA Vaccines – Engineering and Development
- RNA Vaccines – saRNA and taRNA

Vincenzo Cerullo: Cancer immunotherapy

- General Concepts
- Active Immunotherapy - Specific and Nonspecific (Theory and Practical Examples)
- Passive Immunotherapy - Specific and Nonspecific (Theory and Practical Examples)
- ImmunoVirotherapy (Theory and Practical Examples)
- Factors Influencing the Effectiveness of Immunotherapy

Nicola Zambrano: Development of oncolytic viruses and antitumor vaccines: from viruses to RNA 2

- Oncolytic Herpes Simplex Viruses (oHSV): History and Opportunities
- Preclinical Development of oHSV: Arming and Receptor Detargeting/Retargeting Strategies to Tumor Antigens
- Technologies: Recombineering for HSV Vector Engineering
- Technologies: Synthesis and Quality Control of In Vitro Transcribed mRNAs