

Clinical Oncology

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DESCRIPTION

Clinical research: development of new therapeutic strategies; evaluation of the effectiveness of target treatments; detection of residual disease; design of clinical trials; development of phase I clinical trials; improvement of patient and their family's quality of life.

Translational research: design of personalized therapy studies; evaluation of prognostic and predictive molecular markers of response to treatment; molecular mechanisms of action and resistance to drugs; pharmacogenetics of cancer. We aim to translate this knowledge to (1) predict those patients with a higher risk of recurrence, (2) select patients more likely to benefit from specific treatments based on their tumor molecular characteristics and (3) assess the risk of toxicity of treatments according to the genetic characteristics of patients.

MAIN LINES OF RESEARCH

- Breast Tumors: Dr. Barnadas, Dra. Ramón y Cajal, Dra. Tibau, Dra. Arqueros, Dra. Andrés, Dra. Boronat and Dr. Escuin.
- Lung Tumors and melanomas: Dra. Majem, Dra. Sullivan, Dr. Barba, Jorgina Serra.
- Neuroendocrine Tumors: Dra. Sullivan, Dr. Paez.
- Head and Neck Tumors and central nervous system tumors: Dr. Gallego, Dra. Sebío.
- Hereditary and familial cancer: Dra. Ramón y Cajal, Dr. N Calvo.
- Digestive Tumors: Dr. Páez, Dra. Sebío, Dra. Virgili, Dr. Pelegrin, Dra. Martin Cullell, Dra. Cerda.



05.1.2 Oncohematologic Diseases Area

- Urologic Tumors: Dr. Maroto, Dra. Anguera.
- Sarcomas Unit: Dra. Sebio, Dra. Virgili, Dr. Terés, Dr. López Pousa.
- Laboratory of Translational Oncology: Dr. Escuin.

SCIENTIFIC CHALLENGES

- Identification of tumor molecular alterations and their clinical evolutionary course. Identification of these alterations would allow the use of specific targets and improvement of clinical responses. Currently, this is only possible for some neoplasms, and targeted therapies are administered to patients with advanced disease, for whom acceptable results are expected in terms of survival and tolerance. In recent years, we have implemented the use of next-generation sequencing cancer panels in certain tumors (lung, sarcomas, melanoma, colon, etc.) to identify patients eligible to specific target treatments. Our challenge is to expand this strategy to other carcinomas and to incorporate bioinformatics in the clinical practice to extract the maximum benefit from the information obtained to advance towards Precision Oncology.
- Response to treatment is short in certain cancers due to the heterogeneity of the tumors and the development of tumor clones that are resistant to the initial treatment. Therefore, it is essential to accurately identify the initial genetic alterations and those that develop secondarily to the treatment, to identify the mechanisms of resistance to systemic therapy and define therapeutic strategies based on this information.
- The use of liquid biopsy would allow the identification of molecular alterations at early stages of the disease, to evaluate the tumor load, and to monitor responses to systemic treatment. Our challenge is to set up a prospective sample collection strategy in patients with a high-risk of relapse to assess and monitor the effectiveness of therapies.
- To determine the immunological response of cancer patients, to identify treatments that potentiate the response in the tumor cells, and to define strategies to monitor those effects.

ACTIVE GRANTS

- Escuin Borrás, Daniel. Investigación del papel de los miRNAs y snoRNAs circulantes como marcadores surrogados del estatus de los ganglios

linfáticos en pacientes con cáncer de mama. PI19/00362. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2023. 131.890,00 €.

- Paez López-Bravo, David. Integración de la farmacogenética y la telemedicina mediante salud móvil para el manejo de los efectos adversos en pacientes con cáncer colorrectal (ePGx study). PI21/01913. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 63.525,00 €.
- Serra López, Jorgina. PR-405/2020. Fundació Infermeria i Societat. Duration: 2021-2023. 4.290,00 €.

GRANTS AWARDED

- Barnadas Molins, Agustí. Recerca Clínica en Oncologia. 2021 SGR 00827. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2025. 36.000 €.
- Tibau Martorell, Ariadna. Beneficio clínico, precio y acceso de los nuevos medicamentos contra el cáncer en España y en el resto de Europa: un análisis internacional. PI23/00742. Instituto de Salud Carlos III. Duration: 2024-2026. 37.500 €.

SCIENTIFIC PRODUCTION

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05.1.2 Oncohematologic Diseases Area

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05.1.2 Oncohematologic Diseases Area

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