



3.5.5 Cancer Molecular Pathology and Therapeutic Targets Group

Publications: 27

Q1: 8

COMPOSITION

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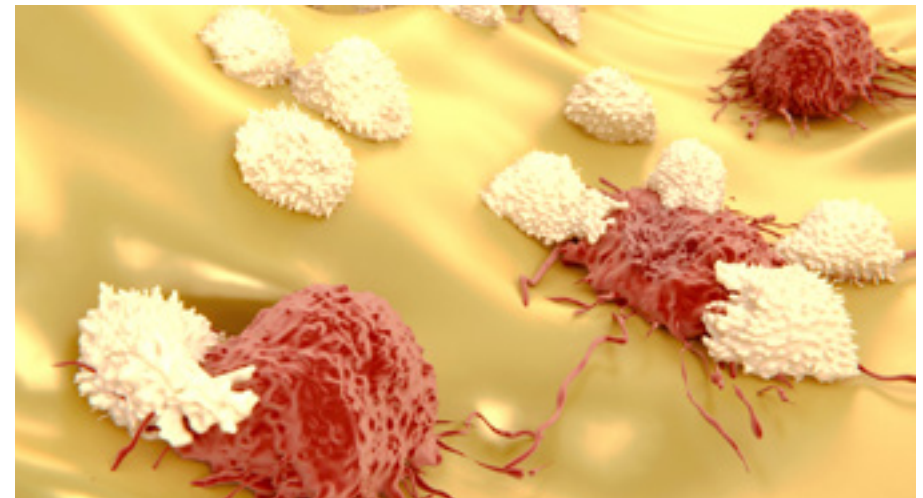
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STRATEGIC OBJECTIVE

The fundamental interest of our research group is centered in the study of molecular biomarkers that have a direct implication in the handling of the cancer patients with the last aim to identify and to validate therapeutic targets.

Ovarian cancer Research Line

The ovarian carcinoma is the main cause of gynecological cancer mortality in the western societies. Nevertheless, the classic parameters are imperfect predictors for patients outcome, partly due to the complexity of the molecular genetic events that sublie these tumors and to the fact that they are not totally known. Research on this field could identify more precise markers to correctly stratify the patients according to their probability to recur and response to treatments.

Angiogenesis, epithelial to mesenchymal transition and hypoxia are processes demonstrated to have an important role in the development of these tumors. The main objective of this line of investigation, therefore, is to identify discrete markers or gene expression profiles related to these events, with predictive and prognostic value for ovarian cancer patients.

Endometrial cancer Research Line

Endometrial carcinoma is the fourth most common cancer in women in the developed world. Histomorphologic criteria are not strongly enough tools to distinguish more aggressive tumors. Based on molecular characterization, risk stratification systems could be useful for decision making.

The main objective of this line of investigation, therefore, is to identify molecular markers with predictive and prognostic value for endometrial cancer patients.



Breast cancer Research Line

C-Src is overexpressed and/or hyperactive in breast carcinoma biopsies and their implication in the tumorigenesis has been proved in murine models.

Our studies on genetically modified human breast cancer cells and mice can establish the relevance of the function of scaffolding of SFKs in breast cancer. In addition, our work can lead to the development of new prognosis and therapeutic tools to improve the treatment of the breast cancer.

Angiogenesis and breast cancer. Angiogenesis is a key process in tumor development. Our group has been working for years on the search of biomarkers related to this process. Specifically on breast cancer, it is important to identify patients that will benefit of evacizumab containing regimens.

Sarcomas Research Line

Bone and Soft tissue sarcomas includes a group of heterogeneous pathologies that were traditionally treated in the same way. The clinical investigation has allowed the identification of

sub-groups with different response to treatments. The objective of this line of work is to find biomarkers for the best stratification of the patients, as well as to get a better knowledge of the molecular mechanisms for the development of these tumors.

Neuroendocrine tumors Research Line

The neuroendocrine tumors (NET) include heterogeneous neoplasias, regarding morphologic and functional features. They constitute a challenge for the medical management, mainly regarding diagnosis and handling. Although we have improved the knowledge of molecular events related to their development in the last decade, we need to better know these tumors, in order to establish an early detection, that it improves the rates of survival.

In vitro 2- and 3D cell culture models for functional studies

The identification of potential markers in different pathologies might be complemented by functional studies, focused on the characterization of cancer and stromal cell features, important for tumor development that it improves the rates of survival.

RESEARCH LINES

- Ovarian and endometrial cancer
- Breast cancer
- Sarcomas

- Neuroendocrine tumors
- New in vitro models of disease

RESEARCH ACTIVITY

● Doctoral theses

Ramón Patiño JL. Evaluación de las herramientas de estratificación pronóstica en el cáncer de endometrio en estadios iniciales [dissertation]. Madrid: UAM: 2022(21/11/2022).

Directors: Redondo Sánchez A, Mendiola Sabio M.

● Publications

- Busca C, Sánchez-Conde M, Rico M, Rosas M, Valencia E, Moreno A, Moreno V, Martín-Carbonero L, Moreno S, Pérez-Valero I, Bernardino JI, Arribas JR, González J, Oliveira A, Castillo P, Abadía M, Guerra L, Méndez C, Montes ML. Assessment of noninvasive markers of steatosis and liver fibrosis in human immunodeficiency virus-

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- Cantero-Cid R, Montalbán-Hernández KM, Guevara J, Pascual-Iglesias A, Pulido E, Casalvilla JC, Marcano C, Serrano CB, Valentin J, Bonel-Pérez GC, Avendaño-Ortiz J, Terron V, Lozano-Rodríguez R, Martín-Quirós A, Marín E, Peña E, Guerra-Pastrián L, López-Collazo E, Aguirre LA. Intertwined leukocyte balances in tumours and peripheral blood as robust predictors of right and left colorectal cancer survival. *World J Gastrointest Oncol.* 2022; 14(1): 295-318. Article. IF: 3; Q3
- Cruz-Castellanos P, Ortiz-Cruz E, Sánchez-Méndez JI, Tapia M, Morera R, Redondo A. The impact of the first wave of the COVID-19 pandemic on oncological patients in a tertiary hospital. *Rev Esp Patol.* 2022; 55(2): 77-84. Article. Not Indexed

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- Gallego A, Mendiola M, Hernando B, Berjón A, Cadiz A, Chaves-Urbano B, Heredia-Soto V, Spagnolo E, Gutiérrez AH, Hardisson D, Macintyre G, Redondo A, García MJ. Prognostic markers of inflammation in endometrioid and clear cell ovarian cancer. *Int J Gynecol Cancer.* 2022; 32(8): 1009-16. Article. IF: 4.8; Q1

- García-Casado Z, Oaknin A, Mendiola M, Alkorta-Aranburu G, Antúnez-López JR, Moreno-Bueno G, Palacios J, Yubero A, Márquez R, Gallego A, Sánchez-Heras AB, López-Guerrero JA, Pérez-Segura C, Barretina-Ginesta P, Alarcón J, Gaba L, Márquez A, Matito J, Cueva J, Palacio I, Iglesias M, Arcusa A, Sánchez-Lorenzo L, Guerra-Alia E, Romero I, Vivancos A. Laboratory cross-comparison and ring test trial for tumor brca testing in a multicenter epithelial ovarian cancer series: The BORNEO GEICO 60-0 Study. *J Pers Med.* 2022; 12(11): 1842. Article. Not Indexed

- González-García MC, Pérez Montero P, Pena Burgos EM, Vega Cabrera C, Hernández Cabrero T, Rivas Becerra B, Yébenes L, Hardisson D. SARS-CoV-2 infection associated with monoclonal gammopathy. A case report based on the study of minimally invasive ultrasound-guided autopsy. *Rev Esp Patol.* 2022; 55(1): 41-5. Article. Not Indexed



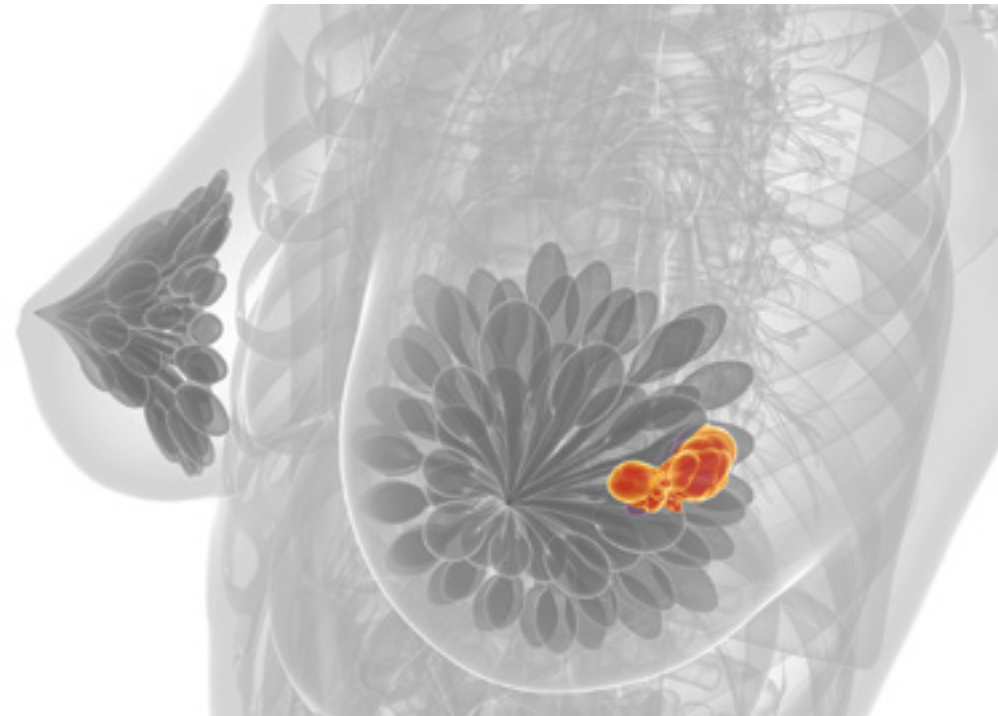
1 Introduction

2 Executive Summary

3 Information Groups by Area

4 Associated Clinicians

- Heredia-Soto V, Escudero J, Miguel M, Ruiz P, Gallego A, Berjon A, Hernández A, Martínez-Díez M, Zheng SY, Tang J, Hardisson D, Feliú J, Redondo A, Mendiola M. Antitumoral effect of plocabulin in high grade serous ovarian carcinoma cell line models. *Front Oncol.* 2022; 12: 862321. Article. IF: 4.7; Q2
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- López-Janeiro A, Villalba-Esparza M, Brizzi ME, Jiménez-Sánchez D, Ruz-Caracuel I, Kadioglu E, Masetto I, Goubert V, García-Ros D, Melero I, Peláez-García A, Hardisson D, de Andrea CE. The association between the tumor immune microenvironments and clinical outcome in low-grade, early-stage endometrial cancer patients. *J Pathol.* 2022; 258(4): 426-36. Article. IF: 7.3; D1
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- Melero I, Villalba-Esparza M, Recalde-Zamacona B, Jiménez-Sánchez D, Teijeira A, Argueta A, García-Tobar L, Alvarez-Gigil L, Sainz C, García-Ros D, Toledo E, Abengozar-Muela M, Fernández-Alonso M, Rodríguez-Mateos M, Reina G, Carmona-Torre F, Quiroga JA, del Pozo JL, Cross A, López-Janeiro A, Hardisson D, Echeveste JI, Lozano MD, Ho LP, Klenerman P, Issa F, Landecho MF, de Andrea CE. Neutrophil extracellular traps, local il-8 expression, and cytotoxic t-lymphocyte response in the lungs of patients with fatal covid-19. *Chest.* 2022; 162(5): 1006-16. Article. IF: 9.6; Q1
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● Research projects

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● Patents and trademarks

Redondo Sánchez A, Hardisson Hernández D, Barriuso Feijoo J, Mendiola Sabio M, inventors; FIBHULP, assignee. Method to obtain useful data for the prediction of a patient's clinical response to an anticancer treatment. P200930400; 2009 July 01.

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