

Irene Guijarro Munoz, PhD

PRESENT TITLE AND AFFILIATION

Research Manager and Science Liaison at The Happy Lungs Project. 09/2022-present.

- Manage strategy and coordination of a RET-positive non-small cell lung cancer research program, leveraging expert advisors, academic collaborators, and commercial contractors to create model systems in which to test the impact of potential therapeutics.
- Support lung cancer patients and families in understanding the biology of the illness and therapeutic landscape.

EDUCATION

Degree-Granting Education

- BA, 09/2002-08/2008, Biochemistry Degree. Universidad Autónoma de Madrid, Spain.
- MS, 09/2008-08/2009, Biotechnology Degree. Universidad Autónoma de Madrid, Spain.
- PhD in Biochemistry, Molecular Biology and Biomedicine. Universidad Autónoma de Madrid, Spain. Unidad de Immunología Molecular. Hospital Universitario Puerta de Hierro Majadahonda, Madrid, Spain, 10/2009-12/2013. Advisors: Drs. Luis Álvarez Vallina and Laura Sanz Alcober. My doctoral studies focused on:
 - The functional study of the properties of pericytes and its role in innate immune responses.
 - The study of axon guidance molecules in tumor angiogenesis.
 - The identification of EphB4 as potential predictive biomarkers of response to antiangiogenic therapy in colorectal cancer patients.

EXPERIENCE

Research Project Manager at Thoracic/Head and Neck Medical Oncology, Division of Cancer Medicine. The University of Texas MD Anderson Cancer Center, Houston, TX. 09/2018-07/2022. Supervisors: Drs. Emily Roarty, Amy Spelman and John V. Heymach.

- Seek appropriate funding mechanisms to support research.
- Develop research proposals and budgets for industry partners and alliances, provide administrative oversight, and ensure successful execution.
- Provide administrative and scientific oversight for grants including multi-disciplinary and multi-project grants. Coordinate the teams and provide assistance in budget and proposal development. Assist with the annual grant progress reports.
- Oversee and coordinate finances and laboratory teams focusing on milestones development, effective program planning, implementation, and evaluation.
- Draft and coordinate philanthropic funding research opportunities. Oversee the progress and assist with reports.
- Actively collaborate with grant and finances management staff.
- Assistance developing and preparing communications of research projects to professional groups and conferences.
- Perform critical review of research funding applications, progress reports and other communications.
- Assistance with the management of patient sample collection for research purposes.
- Review and edit science manuscripts and abstracts.

Postdoctoral fellow at Thoracic/Head and Neck Medical Oncology, Division of Cancer Medicine. The University of Texas MD Anderson Cancer Center, Houston, TX. 10/2014-09/2018. Advisor: Dr. John V. Heymach. My postdoctoral studies focused on:

- The study of tumor angiogenesis and lactate transporters in the context of LKB1 mutant NSCLC.
- The study of the efficacy of CDK4/6 inhibition in tumor infiltrating-lymphocyte (TIL) specific protection from chemotherapy-induced cytotoxicity in small-cell lung cancer (SCLC).

- Preclinical collaboration to determine the impact of Notch1 activating mutations and therapeutic response to brontictuzumab in adenoid cystic carcinoma (ACC).

TRAINING

Cancer Research Administration and Management Training

UT MD Anderson Cancer Center and UT Graduate School of Biomedical Sciences. GS21 1733 Cancer Research Administration and Management, Pre- and Post-Award. 6 credit hours. 09/2020-04/2021.

PUBLICATIONS

Peer-Reviewed Original Research Articles

1. Sanz L, Compte M, **Guijarro-Munoz I**, Alvarez-Vallina L. Non-hematopoietic stem cells as factories for in vivo therapeutic protein production. *Gene Therapy*. 2012;19(1):1-7. Epub 2011/05/13. doi: 10.1038/gt.2011.68. PubMed PMID: 21562594.
2. **Guijarro-Munoz I**, Cuesta AM, Alvarez-Cienfuegos A, Geng JG, Alvarez-Vallina L, Sanz L. The axonal repellent Slit2 inhibits pericyte migration: potential implications in angiogenesis. *Experimental Cell Research*. 2012;318(4):371-8. Epub 2011/12/27. doi: 10.1016/j.yexcr.2011.12.005. PubMed PMID: 22198087.
3. Santos-Valle P, **Guijarro-Munoz I**, Cuesta AM, Alonso-Camino V, Villate M, Alvarez-Cienfuegos A, Blanco FJ, Sanz L, Alvarez-Vallina L. The heterotrimeric laminin coiled-coil domain exerts anti-adhesive effects and induces a pro-invasive phenotype. *PloS One*. 2012;7(6):e39097. Epub 2012/06/23. doi: 10.1371/journal.pone.0039097. PubMed PMID: 22723936; PMCID: PMC3378518.
4. Fernandez-Perianez R, Molina-Privado I, Rojo F, **Guijarro-Munoz I**, Alonso-Camino V, Zazo S, Compte M, Alvarez-Cienfuegos A, Cuesta AM, Sanchez-Martin D, Alvarez-Mendez AM, Sanz L, Alvarez-Vallina L. Basement membrane-rich organoids with functional human blood vessels are permissive niches for human breast cancer metastasis. *PloS One*. 2013;8(8):e72957. Epub 2013/08/21. doi: 10.1371/journal.pone.0072957. PubMed PMID: 23951338; PMCID: PMC3738545.
5. Sanchez-Martin D, Martinez-Torrecedrada J, Teesalu T, Sugahara KN, Alvarez-Cienfuegos A, Ximenez-Embun P, Fernandez-Perianez R, Martin MT, Molina-Privado I, Ruppen-Canas I, Blanco-Toribio A, Canamero M, Cuesta AM, Compte M, Kremer L, Bellas C, Alonso-Camino V, **Guijarro-Munoz I**, Sanz L, Ruoslahti E, Alvarez-Vallina L. Proteasome activator complex PA28 identified as an accessible target in prostate cancer by in vivo selection of human antibodies. *Proceedings of the National Academy of Sciences of the United States of America*. 2013;110(34):13791-6. Epub 2013/08/07. doi: 10.1073/pnas.1300013110. PubMed PMID: 23918357; PMCID: PMC3752212.
6. **Guijarro-Munoz I**, Compte M, Alvarez-Vallina L, Sanz L. Antibody gene therapy: getting closer to clinical application? *Current Gene Therapy*. 2013;13(4):282-90. Epub 2013/06/19. PubMed PMID: 23773178.
7. **Guijarro-Munoz I**, Sanchez A, Martinez-Martinez E, Garcia JM, Salas C, Provencio M, Alvarez-Vallina L, Sanz L. Gene expression profiling identifies EPHB4 as a potential predictive biomarker in colorectal cancer patients treated with bevacizumab. *Medical Oncology (Northwood, London, England)*. 2013;30(2):572. Epub 2013/04/13. doi: 10.1007/s12032-013-0572-1. PubMed PMID: 23579861.
8. **Guijarro-Munoz I**, Compte M, Alvarez-Cienfuegos A, Alvarez-Vallina L, Sanz L. Lipopolysaccharide activates Toll-like receptor 4 (TLR4)-mediated NF-kappaB signaling pathway and proinflammatory response in human pericytes. *The Journal of biological chemistry*. 2014;289(4):2457-68. Epub 2013/12/07. doi: 10.1074/jbc.M113.521161. PubMed PMID: 24307174; PMCID: PMC3900988.
9. Gomez-Maldonado L, Tiana M, Roche O, Prado-Cabrero A, Jensen L, Fernandez-Barral A, **Guijarro-Munoz I**, Favaro E, Moreno-Bueno G, Sanz L, Aragonés J, Harris A, Volpert O, Jimenez B, del Peso L. EFNA3 long noncoding RNAs induced by hypoxia promote metastatic dissemination. *Oncogene*. 2015;34(20):2609-20. Epub 2014/07/16. doi: 10.1038/onc.2014.200. PubMed PMID: 25023702; PMCID: PMC4722872.
10. Ferrarotto R, Mitani Y, Diao L, **Guijarro I**, Wang J, Zweidler-McKay P, Bell D, William WN Jr, Glisson BS, Wick MJ, Kapoun AM, Patnaik A, Eckhardt G, Munster P, Faoro L, Dupont J, Lee JJ, Futreal A, El-Naggar AK, Heymach JV. Activating NOTCH1 Mutations Define a Distinct Subgroup of Patients With Adenoid

Cystic Carcinoma Who Have Poor Prognosis, Propensity to Bone and Liver Metastasis, and Potential Responsiveness to Notch1 Inhibitors. *J Clin Oncol.* 2017 Jan 20;35(3):352-360. doi: 10.1200/JCO.2016.67.5264. Epub 2016 Nov 21. PMID: 27870570; PMCID: PMC5456373.

11. Monteiro de Oliveira Novaes JA, Hirz T, **Guijarro I**, Nilsson M, Pisegna MA, Poteete A, Barsoumian HB, Fradette JJ, Chen LN, Gibbons DL, Tian X, Wang J, Myers JN, McArthur MJ, Bell D, William WN Jr, Heymach JV. Targeting of CD40 and PD-L1 Pathways Inhibits Progression of Oral Premalignant Lesions in a Carcinogen-induced Model of Oral Squamous Cell Carcinoma. *Cancer Prev Res (Phila).* 2021 Mar;14(3):313-324. doi: 10.1158/1940-6207.CAPR-20-0418. Epub 2020 Dec 4. PMID 33277316.
12. Le X, Negrao MV, Reuben A, Federico L, Diao L, McGrail D, Nilsson M, Robichaux J, **Munoz IG**, Patel S, Elamin Y, Fan YH, Lee WC, Parra E, Solis Soto LM, Chen R, Li J, Karpinets T, Khairullah R, Kadara H, Behrens C, Sepesi B, Wang R, Zhu M, Wang L, Vaporciyan A, Roth J, Swisher S, Haymaker C, Zhang J, Wang J, Wong KK, Byers LA, Bernatchez C, Zhang J, Wistuba II, Gibbons DL, Akbay EA, Heymach JV. Characterization of the Immune Landscape of EGFR-Mutant NSCLC Identifies CD73/Adenosine Pathway as a Potential Therapeutic Target. *J Thorac Oncol.* 2021 Apr;16(4):583-600. doi: 10.1016/j.jtho.2020.12.010. Epub 2020 Dec 31. PMID: 33388477.

Editorials and book chapters

1. **Guijarro-Munoz I**, Roarty EB, Heymach JV. Bevacizumab beyond disease progression for advanced non-small cell lung cancer: Does persistence have its rewards? *Cancer* 2016;122(7):1047-9 doi 10.1002/cncr.29894.
2. *Holland-Frei Cancer Medicine*, tenth Edition. Chapter dedicated to angiogenesis. Heymach JV, Kopetz S, Zurita-Saavedra A, Cascone T, Nilsson M, **Guijarro I**. (in press)

Abstracts

1. Sanz L, Compte M, **Guijarro-Munoz I**, Alvarez-Vallina L. Non-hematopoietic stem cells as factories for in vivo therapeutic protein production. *Gene therapy.* 2012;19(1):1-7. Epub 2011/05/13. doi: 10.1038/gt.2011.68. PubMed PMID: 21562594.
2. **Guijarro I**, Poteete A, Yang C, Roarty E, Nilsson M, Sun H, Tong P, Chang E, Rodriguez-Canales J, Mino B, Parra E, Wistuba I, Wang J, Heffernan T, Heymach JV. Abstract 3272: LKB1 loss is associated with resistance to VEGF inhibitors in non-small cell lung cancer (NSCLC). *Cancer Research.* 2016;76(14 Supplement):3272-. doi: 10.1158/1538-7445.Am2016-3272.
3. **Guijarro I**, Denning W, Ferrarotto R, Poteete A, Giri U, Bisi JE, *et al.* The CDK4/6 inhibitor G1T28 to protect immune cells and fibroblasts from chemotherapy and radiation-induced toxicity in vitro and to maintain efficacy of chemotherapy in SCLC Rb-deficient cells. *Journal of Clinical Oncology* 2016;34(15_suppl):e20099-e doi 10.1200/JCO.2016.34.15_suppl.e20099.
4. **Guijarro I**, Poteete A, Ferrarotto R, Denning W, Hamdi H, Roberts P, Malik R, Bisi J, Sorrentino J, Strum J, Roarty E, Heymach J. P2.03a-048 The CDK4/6 Inhibitor G1T28 Protects Immune Cells from Cisplatin-Induced Toxicity in vivo and Inhibits SCLC Tumor Growth: Topic: Clinical Trials. *Journal of Thoracic Oncology.* 2017;12(1):S918. doi: 10.1016/j.jtho.2016.11.1258.
5. **Guijarro I**, Poteete A, Fan Y, Cho S, Tong P, Roarty E, Nilsson M, Rodriguez-Canales J, Mino B, Cuentas EP, Wistuba I, Wang J, Heymach J. P3.03-027 LKB1 Loss Is Associated with Resistance to Anti-Angiogenic Therapy in Non-Small Cell Lung Cancer Mouse Models. *Journal of Thoracic Oncology.* 2017;12(11):S2283. doi: 10.1016/j.jtho.2017.09.1654.
6. **Guijarro I**, Poteete A, Tong P, Wang J, Heymach J. Abstract 5147: Lactate transporters are a potential therapeutic target for LKB1-deficient lung cancers. *Cancer Research.* 2018;78(13 Supplement):5147-. doi: 10.1158/1538-7445.Am2018-5147.

7. Morikawa N, Nilsson MB, **Gujjarro I**, Fan Y-H, Poteete A, Heymach JV. Abstract 4847: Evaluation of the combination of olaparib and cediranib in small-cell lung cancer cells. *Cancer Research*. 2018;78(13 Supplement):4847-. doi: 10.1158/1538-7445.Am2018-4847.

CONFERENCES AND SYMPOSIA

Oral and poster presentations at national or international conferences.

1. **Gujjarro I**, Nilsson M, Poteete A, Tong P, Sun H, Denning W, Xia D, Skoulidis F, Wang J, Roarty E, Heymach JV. Tumor angiogenesis in LKB1-mutant NSCLC. Oral presentation IASLC 16th World Conference on Lung Cancer, Denver, CO, 9/7/2015.
2. **Gujjarro I**, Poteete A, Yang C, Roarty E, Nilsson M, Sun H, Tong P, Chang E, Rodriguez-Canales J, Mino B, Parra E, Wistuba I, Wang J, Heffernan T, Heymach JV. LKB1 loss is associated with resistance to VEGF inhibitors in NSCLC. Poster presentation, AACR Annual Meeting, New Orleans, LA, 4/19/2016.
3. **Gujjarro I**, Poteete A, Yang C, Roarty E, Nilsson M, Sun H, Tong P, Chang E, Rodriguez-Canales J, Mino B, Parra E, Wistuba I, Wang J, Heffernan T, Heymach JV. LKB1 loss is associated with resistance to VEGF inhibitors in non-small cell lung cancer (NSCLC). Oral presentation at Lung cancer SPORE, annual June 2016 meeting, Washington DC.
4. **Gujjarro I**, Poteete A, Ferrarotto R, Denning W, Hamdi H, Roberts P, Malik R, Bisio J, Sorrentino J, Strum J, Roarty E, Heymach J. The CDK4/6 inhibitor G1T28 protects immune cells from cisplatin-induced toxicity in vivo and inhibits SCLC tumor growth. Poster presentation, IASLC 17th World Conference on Lung Cancer, Vienna, Austria, 12/6/2016.
5. **Gujjarro I**, Poteete A, Ferrarotto R, Denning W, Hamdi H, Roberts P, Malik R, Bisio J, Sorrentino J, Strum J, Roarty E, Heymach J. CDK4/6 inhibition as an approach for protecting against chemotherapy- and radiotherapy-induced immunosuppression in SCLC. Oral presentation at Small Cell Lung Cancer Workshop, IASLC in 2017, New York City.
6. **Gujjarro I**, Poteete A, Fan Y, Cho S, Tong P, Roarty E, Nilsson M, Rodriguex-Canales J, Mino B, Parra Cuentas E, Wistuba I, Wnag J, Heymach J, LKB1 Loss is Associated with Resistance to Anti-Angiogenic Therapy in Non-Small Cell Lung Cancer Mouse Model. Poster presentation, IASLC 18th World Lung Conference in Lung Cancer, Yokohama, Japan, 10/15/2017
7. **Gujjarro I**, Poteete, Tong P, Wang J, Heymach J, Characterization of lactate transporters as potential therapeutic targets for LKB1-deficient non-small cell lung cancer (NSCLC). Poster presentation, AACR, Chicago, IL, 04/17/2018.
8. Morikawa N, Nilsson M, **Gujjarro I**, Fan YH, Poteete A, Heymach J Evaluation of the combination of olaparib and cediranib in small-cell lung cancer cells. Poster presentation, AACR, Chicago, IL, 04/17/2018.
9. **Gujjarro, I. et al.** The CDK4/6 inhibitor G1T28 protects immune cells from cisplatin-induced toxicity in vivo and inhibits SCLC tumor growth presentation. Poster presentation, Spore Lung Cancer Workshop. 20-21 April, Dallas, Texas, 2018.
10. **Gujjarro, I. et al.** Lactate transporter blockade as a strategy to overcome VEGF inhibitor-resistance in LKB1-deficient NSCLC Spore Lung Cancer Workshop. Oral presentation. June 13-14, 2019, Rockville, Maryland, 2019.
11. **Gujjarro, I. et al.** Lactate transporter blockade as a strategy to overcome VEGF inhibitor-resistance in LKB1-deficient NSCLC. Oral presentation, presenter John V. Heymac. IASLC World Conference on Lung Cancer, Barcelona, Spain 9/7/2019.