Additional information

Training Plan

Given the multi- disciplinary and collaborative nature of the proposal, the candidate will acquire a thorough knowledge in cancer, neurobiology, signalling pathways and cell and molecular biology among others. He/she will be trained in mouse models, cell culture, and in vitro techniques and will be able to extrapolate his/her results to the clinical setting. The candidate will acquire different but complementary knowledge in *in vivo* and *in vitro* techniques. Further, he/she will be encouraged to travel for a short stay in another lab abroad and to attend national meetings and at international meetings during his/her PhD period.

The thesis project will be carried out at the Instituto de Neurociencias CSIC-UMH (IN) that offers a unique environment to develop a successful scientific career. The postgraduate training program integrates a theoretical and practical approach to the diverse methodologies used to study the nervous system among others. The programme is designed to stimulate the initiative and abilities of the students, helping to orient the development of their scientific careers and to increase different competences not only as a scientist but also personal abilities and skills. The PhD program in Neurosciences has been always a vehicle for the internationalization of the Institute. Further the IN it is a “Centro de Excelencia Severo Ochoa”, with allocated funding and a programme to support the development of young researchers. For instance, the Institute encourages and supports PhD Students to organize international scientific meetings and workshops The group also belongs to the recently created “Conexion Cancer CSIC”, with allocated training support programmes. The Doctoral programme and the CSIC organize different activities and courses including among others graphic design and scientific communication for researchers, courses on ethics in research, In addition, the IN runs a weekly series of seminars with international speakers and the programmes also run monthly seminars for PhD students and young scientists to present their data. We have also “Programme Retreats”, where the PhD students present their progress. In addition, the PI holds weekly meetings with the PhD students to supervise their progresses and support them in any problem they may encounter combined with weekly lab meetings with other members of the group. All of this support the optimal environment for a PhD student to develop and succeed as a young scientist.

Latest publications:

Metabolic rewiring induced by ranolazine improves melanoma responses to targeted therapy and immunotherapy.
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Nat Metab. 2023 Aug 10.

Microenvironmental Snail1-induced immunosuppression promotes melanoma growth.
Arumi-Planas M, Rodriguez-Baena FJ, Cabello-Torres F, Gracia F, Lopez-Blau C, Nieto MA, Sanchez-Laorden B.
Oncogene. 2023 Jul 29.

Neuronal Cannabinoid CB_1 Receptors Suppress the Growth of Melanoma Brain Metastases by Inhibiting Glutamatergic Signalling.
Costas-Insua C, Seijo-Vila M, Blázquez C, Blasco-Benito S, Rodríguez-Baena FJ, Marsicano G, Pérez-Gómez E, Sánchez C, Sánchez-Laorden B, Guzmán M.
Cancers (Basel). 2023 Apr 24;15(9):2439.

Antifibrotic drugs as therapeutic tools in resistant melanoma.
Sanchez-Laorden B, Nieto MA.
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Ultraviolet radiation-induced DNA damage is prognostic for outcome in melanoma.
Trucco LD, Mundra PA, Hogan K, Garcia-Martinez P, Viros A, Mandal AK, Macagno N, Gaudy-Marqueste C, Allan D, Baenke F, Cook M, McManus C, Sanchez-Laorden B, Dhomen N, Marais R.
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Herraiz C, Jiménez-Cervantes C, Sánchez-Laorden B, García-Borrón JC.
Semin Cell Dev Biol. 2018 Jun;78:73-84.. Review.

Snail1-induced partial epithelial-to-mesenchymal transition drives renal fibrosis in mice and can be targeted to reverse established disease.
Grande MT*, Sánchez-Laorden B*, López-Blau C, De Frutos CA, Boutet A, Arévalo M, Rowe RG, Weiss SJ, López-Novoa JM, Nieto MA.
Nat Med. 2015 Sep;21(9):989-97.

The immune microenvironment confers resistance to MAPK pathway inhibitors through macrophage-derived TNFα.
Smith MP*, Sanchez-Laorden B*, O'Brien K, Brunton H, Ferguson J, Young H, Dhomen N, Flaherty KT, Frederick DT, Cooper ZA, Wargo JA, Marais R, Wellbrock C.
Cancer Discov. 2014 Oct;4(10):1214-1229..

Ultraviolet radiation accelerates BRAF-driven melanomagenesis by targeting TP53.
Viros A*, Sanchez-Laorden B*, Pedersen M, Furney SJ, Rae J, Hogan K, Ejiama S, Girotti MR, Cook M, Dhomen N, Marais R.
Nature. 2014 Jul 24;511(7510):478-482..

BRAF inhibitors induce metastasis in RAS mutant or inhibitor-resistant melanoma cells by reactivating MEK and ERK signaling.
Sanchez-Laorden B, Viros A, Girotti MR, Pedersen M, Saturno G, Zambon A, Niculescu-Duvaz D, Turajlic S, Hayes A, Gore M, Larkin J, Lorigan P, Cook M, Springer C, Marais R. Sci Signal. 2014 Mar 25;7(318):ra30. doi: 10.1126/scisignal.2004815