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Research

Dr. Lacombe's research program focuses on the development of biomedical technologies to help investigating and monitoring the biochemical and biophysical cellular response to ionizing radiation. The research projects involve the elaboration of human microfluidics-based models or tissue engineering platforms to study the effect of radiation on human tissue, the characterization of pharmaceutical and bioengineered systems to identify new delivery routes for radiation medical countermeasure or the development of point-of-care bioassay for the detection and quantification of radiation dosimetry biomarkers.

Selected Publications

Lacombe J, Summers AJ, Khanishayan A, Khorsandian Y, Hacey I, Blackson W, Zenhausern F. Paper-based vertical flow immunoassay for the point-of-care multiplex detection of radiation dosimetry genes. Cytogenet Genome Res. 2023 Jun 27.

Lacombe J, Zenhausern F. Effect of mechanical forces on cellular response to radiation. Radiother Oncol. 2022 Nov;176:187-198.

Lacombe J, Soldevila M, Zenhausern F. From organ-on-chip to body-on-chip: The next generation of microfluidics platforms for in vitro drug efficacy and toxicity testing. Prog Mol Biol Transl Sci. 2022;187(1):41-91

Lacombe J, Harris AF, Zenhausern R, Karsunsky S, Zenhausern F. Plant-Based Scaffolds Modify Cellular Response to Drug and Radiation Exposure Compared to Standard Cell Culture Models. Front Bioeng Biotechnol. 2020 Aug 7;8:932.

Lacombe J, Brengues M, Mangé A, Bourgier C, Gourgou S, Pèlegrin A, Ozsahin M, Solassol J, Azria D. Quantitative proteomic analysis reveals AK2 as potential biomarker for late normal tissue radiotoxicity. Radiat Oncol. 2019; 14(1):142.

Taraboletti A, Goudarzi M, Kabir A, Moon BH, Laiakis EC, Lacombe J, Ake P, Shoishiro S, Brenner D, Fornace AJ Jr, Zenhausern F. Fabric Phase Sorptive Extraction-A Metabolomic Preprocessing Approach for Ionizing Radiation Exposure Assessment. J Proteome Res. 2019; 18(8):3020-3031.

Lacombe J, Sima C, Amundson SA, Zenhausern F. 2018. Candidate gene biodosimetry markers of exposure to external ionizing radiation in human blood: A systematic review. PLoS One. 7;13(6):e0198851.

Lacombe J, Brooks C, Hu C, Menashi E, Korn R, Yang F, Zenhausern F. 2017. Analysis of Saliva Gene Expression during Head and Neck Cancer Radiotherapy: A Pilot Study. Radiat Res. 188(1):75-81.

Lacombe J, Zenhausern F. 2017. Emergence of miR-34a in radiation therapy. Crit Rev Oncol Hematol. 109:69-78.

Lacombe J, Phillips SL, Zenhausern F. 2016. Microfluidics as a new tool in radiation biology. Cancer Lett. 371(2):292-300.