

Droplet-based digital PCR procedures and optimized NGS to track circulating tumor DNA in liquid biopsies: application to colorectal cancer patient follow-up

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Ttracking of circulating cell-free nucleic acids in body effluents has been greatly facilitated by recent technological developments including droplet-based digital PCR and optimized NGS. In particular, microfluidic droplet based digital PCR has permitted to reach unprecedented sensitivity and accuracy for rare cancer biomarker detection. The potential impact of these technologies for cancer patient follow-up will be illustrated by the results obtained from several retrospective and prospective studies.

Biography

Valerie Taly is a CNRS Research Director and Group Leader of the Translational Research and Microfluidics team within the

Clinical Oncology Research unit headed by Prof. P. Laurent-Puig in University Paris Descartes. Her team performs interdisciplinary researches aiming at developing and validating microfluidic tools for cancer research in close collaboration with clinicians and researchers in oncology and toxicology. Since 2008, she developed droplet-based digital procedures for cancer diagnosis. Recently, her research has been dedicated to the clinical validation of droplet-based microfluidics for the non-invasive detection of cancer biomarkers, the highlighting of new cancer biomarkers and the development of original tools and procedures for their detection with applications in personalized medicine, cancer recurrence detection and cancer diagnostics.

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