

Applications of droplet-based digital PCR approaches in cancer research

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Droplet-based digital procedure presents high potentialities for cancer research. Consequently in parallel to the development of highly sensitive quantitative microfluidic tools for cancer biomarkers detection, part of our research is dedicated to their validation. Multiplex strategies were thus developed and validated for the analysis of DNA integrity (Didelot *et al.*, Clin. Chem. 2013) as well as the detection of the seven most frequent *KRAS* mutations within patient samples including plasma (Taly *et al.*, Clin. Chem. 2014) and tumors (Laurent-Puig *et al.* submitted).

Future projects of the team are aiming at evaluating the use of circulating tumor DNA as a potential marker for patient follow-up and investigating the role of low frequency subclones for cancer treatment. Our main focuss is directed against colorectal cancer (collab. Pr. P. Laurent-Puig) and lung cancers (collab. Dr H. Blons), we are also developing tools and strategies for other cancers through collaborative projects.

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