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## A next generation sequencing approach for plasma microRNA profiling in bladder cancer

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In Europe, bladder cancer (BC) is the sixth most commonly diagnosed tumor and the second most common cause of death among patients with genitourinary tract malignancies.

Dysregulated expression of microRNAs (miRNAs) has been observed in many tumors including bladder cancer, revealing that these molecules may be potential diagnostic/prognostic tools. Interestingly, miRNAs have been isolated from different biological specimens, showing that their altered expression may be detected in surrogate tissues, including plasma.

The rapid development of next generation sequencing (NGS) technology has provided novel information about miRNA expression in BC and seems to be superior to array-/PCR-based methods that can investigate a limited number of known miRNAs. So far only few studies investigated miRNA signatures in BC by NGS and exclusively on BC tissues. To investigate an expression signature in surrogate tissues such as plasma, would be a useful alternative to reduce invasiveness of biopsies, allowing repetitive samplings during follow-up and reducing health care costs for both screening strategy and therapies/monitoring.

In this project, miRNA expression profiles will be characterized in 48 plasma samples from BC patients and 48 healthy controls using NGS and systems biology approach with the aim to identify miRNA signatures able to better estimate individual BC risk or that may help as predictive and prognostic markers.

### Biography

Barbara Pardini has completed her Ph.D. in Genetics and microbiology in 2007 at Pisa University (Italy). She has made her postdoc in the Department of Molecular Biology of Cancer (Academy of Sciences of the Czech Republic, Prague) searching for susceptibility loci of gastrointestinal cancers (namely colorectal and pancreatic malignancies). She is currently Post-doc Researcher at the Genomic Variation in Human Population and Complex Diseases Unit at Human Genetics Foundation (Torino, Italy). She has published 41 papers in peer reviewed impacted journals, participated in several international/national grants, both in Italy and the Czech Republic. Her main topics are colorectal cancer susceptibility, DNA repair and recently microRNAs.

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