



DIPARTIMENTO DI FARMACIA E BIOTECNOLOGIE

## Life & Chemical Sciences Seminars

# Epigenetic alterations in gastrointestinal stromal tumors: exploring novel potential biomarkers

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### **Abstract**

Gastrointestinal stromal tumors (GISTs) are rare tumors of mesenchymal origin, arising from the interstitial cell of Cajal. Once a poorly defined pathologic oddity, during the past decade GISTs have emerged as a distinct oncogenetic entity, becoming a model of targeted therapies for solid tumors. The discovery of miRNAs led to the identification of a new level of gene expression regulation, which has progressively attracted the research interest, due to their role in various cancer types, including GISTs.

With the aim of identifying potential novel biomarkers of prognosis and diagnosis, our research activity has mainly focused on the study of epigenetic alterations in GISTs.

We first analyzed the global expression profile of miRNAs in different GISTs subtypes, identifying specific miRNAs involved in the regulation of distinct, deregulated tyrosine kinase receptor. More recently, we have been investigating the potential utility of circulating miRNA as novel biomarkers for the assessment of risk of GIST recurrence. Indeed, in order to identify those high-risk patients who could benefit from prolonged adjuvant therapy, new approaches that may improve on current strategies for patients stratification are urgently needed.

### **Biosketch**

Gloria Ravegnini received her Master degree in Pharmaceutical Biotechnology in 2008 from the University of Bologna (110 cum laude). From 2009 she continued her research activities, first with a European fellowship (7th Framework Programme), then with a scholarship from the Dept of Pharmacology (University of Bologna). Dr. Ravegnini defended her PhD on March 2014, with a thesis carried out under the supervision of Prof. Hrelia. During the PhD course, she spent 18 months at Brigham and Women's Hospital, Harvard Medical School (Boston, US). In 2014 she was supported by a postdoctoral fellowship from Umberto Veronesi foundation; from 2015 to 2017 she could carry on her research activity with a research fellowship from the Dept. of Pharmacy and Biotechnology, University of Bologna. On November 2015, Dr Ravegnini started her second PhD course in Oncology, Hematology and Pathology and she is now supported by a postdoctoral fellowship from the Italian Society of Pharmacology (SIF) and MSD Italia, working at Pharmacogenetic and Pharmacogenomic Unit (Prof. Hrelia and Prof. Angelini), Dept. of Pharmacy and Biotechnology, University of Bologna.

Her research resulted in 25 peer-reviewed publications on international scientific journals and in 2 book chapters. The main research interests focus on the identification of novel genetic and epigenetic biomarkers in human cancer, with particular attention to gastrointestinal stromal tumor and their pharmacological treatments.