microRNA : FROM DEVELOPMENT TO HUMAN DISEASES

Aims & Scope:
Since the discovery of a microRNAs (miRNAs) pathway in C. elegans, their contribution to development, cell fate determination and physiological homeostasis in mammals has rapidly emerged. MiRNAs exhibit a developmental stage- and tissue-specific expression pattern and are present in complex regulatory circuits to regulate stem cells function, tissue differentiation and maintenance of cell identity during embryogenesis and adult life. Recently, the deregulation of miRNAs expression and activity has been correlated with the pathogenesis of various human diseases and cancer. In cancer, the loss of tumour suppressive miRNAs enhances the expression of target oncogenes, whereas increased expression of oncogenic miRNAs can repress target tumour suppressor genes. This new wealth of knowledge points to miRNAs as being novel cancer genes and biomarkers relevant to the pathogenesis, diagnosis and prognosis of disease that may be useful in the management of human cancer. For example, miRNA expression profiles are now used to classify tumours based on the tissue type and stage of disease since they better reflect the developmental lineage and differentiation state of cancer. The aim of this issue is to review the functional roles of microRNA pathway in the establishment and progression of human diseases focusing on the identification of miRNAs signatures as innovative cancer biomarkers for the management and prevention of human cancer.

Key words:
miRorna; RNA-binding Proteins; C. elegans; human diseases; tumorigenesis; cancer biomarkers

Subtopics of interest include, but are NOT limited to:
- Guest Editorial (Francesco Fazi and Giovanni Blandino)
- microRNA and RNA-binding Proteins in C. elegans (Christopher Hammell, USA)
- microRNA and long noncoding RNA in human diseases (Irene Bozzi, Italy)
- microRNA and oncogenesis (Marcos Malumbres, Spain)
- tumor suppressor microRNA (Pier Paolo Pandolfi, USA)
- microRNA as Cancer Biomarkers (George A. Calin, USA)
- microRNA in cancer prevention (Paola Muti, Canada)

Schedule:
Manuscript submission deadline: 15 December 2012
Peer Review Due: 15 January 2013
Revision Due: 30 January 2013
Notification of acceptance by the Guest Editor: 15 February 2013
Final manuscripts due: 28 February 2013